

Final Environmental Impact Statement for the Nevada Test Site and Off-Site Locations in the State of Nevada

Volume 3 Public Comment and Response Document

Part B Responses

August 1996



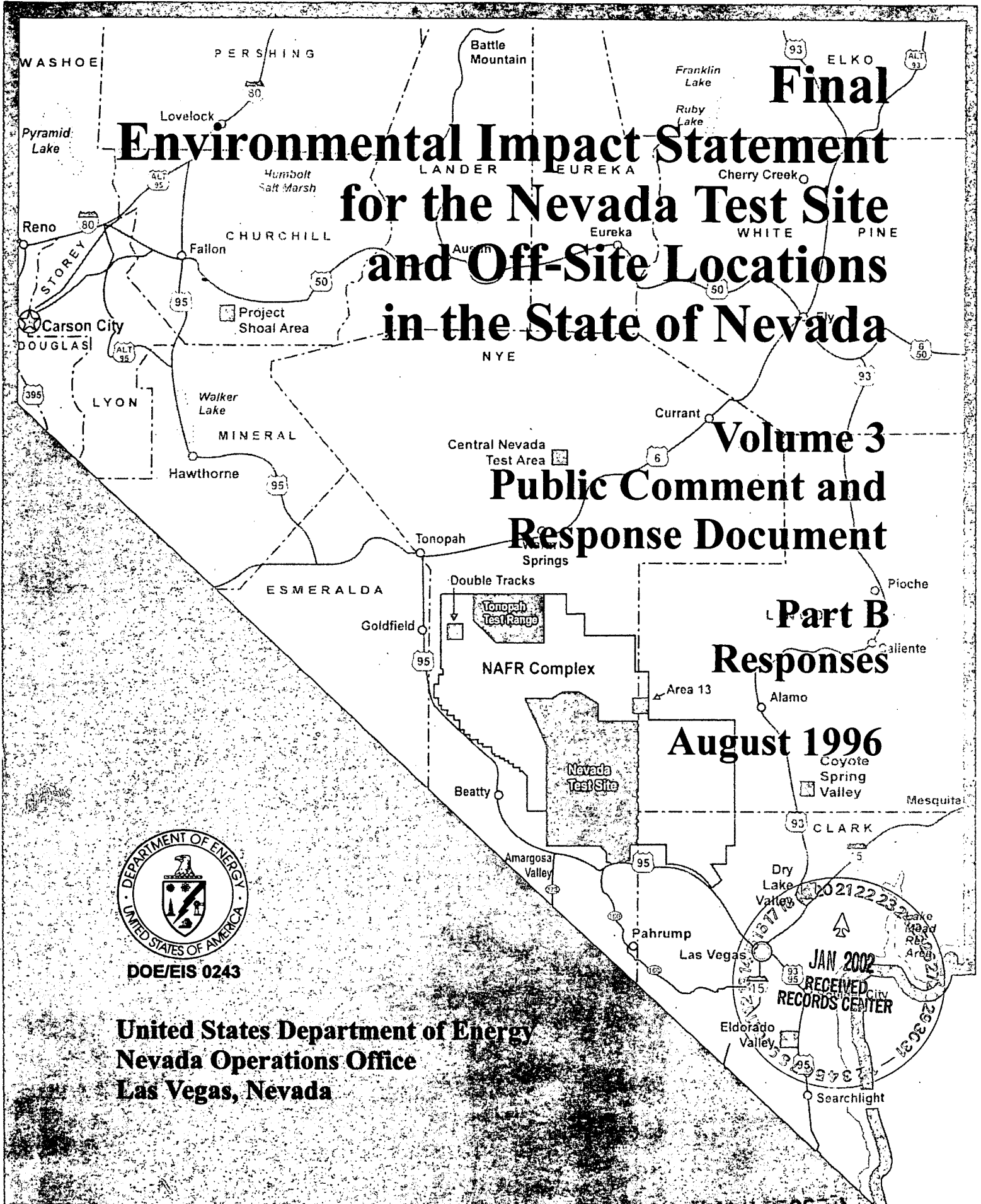
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Las Vegas, Nevada

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**Final
Environmental Impact Statement**

**for
the Nevada Test Site and Off-Site Locations
in the State of Nevada**

Volume 3

Part B

**U.S. Department of Energy
Nevada Operations Office
Las Vegas, Nevada**

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**CHAPTER 3
COMMENT RESPONSES**

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Federal Agency

Comment Code: Federal Agency 1-1

Location of EIS Revision(s): None required

Response: Should a Solar Enterprise Zone facility be sited in Eldorado Valley, the facility would use existing utilities and rights-of-way as much as practical. However, should the facility require power line rights-of-way or other infrastructure improvements that would cross federally withdrawn lands, the appropriate National Environmental Policy Act review, such as an environmental assessment, would be conducted prior to a decision to construct. New power lines would be routed using pathways of existing lines wherever possible. Any actions requiring the use of previously withdrawn lands and unused lands would be coordinated through appropriate agencies. The Bureau of Reclamation's Lower Colorado Regional Office, as well as other interested parties, would be invited to participate in the early phases of planning and development of new Solar Enterprise Zone facilities.

Comment Code: Federal Agency 1-2

Location of EIS Revision(s): None required

Response: Because sufficient water supplies are available on the NTS, as described in Appendix A, it is not anticipated that the water supplies of Lake Mead would be used as a source of water for the NTS, even under Alternative 3, which reflects the most intensive use of water considered under any of the alternatives. Electrical power can be supplied to the NTS from either the Valley Electric Association, Inc., or the Nevada Power Company. Approximately 16 percent of Valley Electric's power is currently generated at Hoover Dam. In addition, the Nevada Power Company has historically provided most of the electrical power for the NTS. This utility company could possibly provide additional power if the demand increases beyond Valley Electric's capabilities. Therefore, the electrical power and water demands of the NTS should not have a significant impact on Hoover Dam and/or the Southern Nevada Water Project.

The location of a Solar Enterprise Zone facility in Eldorado Valley might require the use of water from Lake Mead. If this is proposed, a National Environmental Policy Act review would be required to evaluate the impact on water withdrawal.

Comment Code: Federal Agency 2-1

Location of EIS Revision(s): None required

Response: Note: The Department of the Interior incorporated this set of comments into the larger set of comments noted Comment Code Federal Agency 3. Each of these comments has been addressed in the responses to Federal Agency 3.

Comment Code: Federal Agency 3-1

Location of EIS Revision(s): Volume 1, Section 4.1.1.1

Response: The purpose of the NTS EIS is to address the impacts of the proposed activities, and not to address the terms of the land withdrawal agreements. Please refer to Section 1.4 of Volume 3 for a discussion of the use of lands withdrawn from the public domain.

Comment Code: Federal Agency 3-2

Location of EIS Revision(s): None required

Response: An EIS can be prepared for a specific project, but it may also be prepared at a program or broader level (Council on Environmental Quality, 40 CFR 1502.4). The DOE further defines this broad-level Programmatic EIS as a sitewide EIS for its large, multiple-facility sites (10 CFR 1021.104[b]). This EIS is such a site-wide document. The purpose of this document is described both in the Summary and in Sections 1.2, and 2.1 of the EIS. It is intended to identify and update the environmental analyses from the entire site as well as from reasonably foreseeable future actions. It is also intended to support decisionmaking at the NTS and at locations in southern Nevada now and into the future. Please refer to Volume 3, Section 1.4, Use of Lands Withdrawn from the Public Domain.

Comment Code: Federal Agency 3-3

Location of EIS Revision(s): None required

Response: Because the U.S. Bureau of Land Management retains certain management responsibilities on withdrawn lands and because of the proximity of some of these lands to public domain lands, the DOE invites Bureau participation in its remediation programs.

The DOE will notify the Bureau upon discovery of any contamination on DOE/DoD withdrawn lands which threatens to affect the U.S. Bureau of Land Management land or resources.

Comment Code: Federal Agency 3-4

Location of EIS Revision(s): Volume 1, Section 4.4.11

Response: The text of this EIS has been changed to make clear that the Central Nevada Test Area is currently being investigated as part of the DOE's Environmental Restoration Program. The DOE will evaluate the site in consultation with the state regulatory authority to determine what investigations may be required and what responses are appropriate.

Comment Code: Federal Agency 3-5

Location of EIS Revision(s): None required

Response: If groundwater monitoring detects the potential for contaminant plumes to migrate beyond the boundaries of DOE-controlled lands in Nevada, the adjoining land owner and the appropriate regulatory agencies would be alerted immediately of this potential. If technically and economically feasible, the DOE would mitigate the impacts. Expansion of the withdrawn area to include the area impacted by migration of the contaminants may be reevaluated by the DOE. For additional information refer to Volume 2 and Section 1.11 of Volume 3.

Comment Code: Federal Agency 3-6

Location of EIS Revision(s): None required

Response: The conditions regarding soil gas plumes at the Beatty facility are unrelated to conditions resulting from deep underground nuclear tests. Monitoring programs conducted at the NTS and other locations where underground nuclear tests have taken place have not identified soil gas plumes as a problem. Monitoring programs are focused on the groundwater as the most likely pathway for movement of radioactive material from an underground test.

Comment Code: Federal Agency 3-7

Location of EIS Revision(s): None required

Response: Monitoring programs are in place at locations where underground tests have been conducted. The results are published annually and the adequacy of monitoring programs are reviewed periodically. As the need for mitigation measures, such as modifications to withdrawal boundaries, are identified, the U.S. Bureau of Land Management would be notified.

Comment Code: Federal Agency 3-8

Location of EIS Revision(s): Summary

Response: The text has been modified to read that the U.S. Bureau of Land Management manages several wilderness study areas in this region.

Comment Code: Federal Agency 3-9

Location of EIS Revision(s): Volume 1, Section 4.1.1.1

Response: As depicted on Figure 4-3 of the NTS EIS the lands described under Public Land Order 1662 are withdrawn by the DOE. As stated, the lands withdrawn under this Public Land Order are used by the Department of Defense for ongoing operations and are not considered in the EIS for any alternative use by the DOE. The "delegation of management" is an inaccurate statement and has been deleted. The sentence has

been changed to read, "The lands described under this Public Land Order are not considered in any alternative use by the DOE and are therefore not addressed in this EIS." Refer to Section 4.1.1.1 of Volume 1 and Section 1.5 of Volume 3.

Comment Code: Federal Agency 3-10

Location of EIS Revision(s): None required

Response: The comment concerning the U.S. Bureau of Land Management's 1983 review of NTS land withdrawals has been noted. Please refer to the discussion in Section 1.4, Use of Lands Withdrawn from the Public Domain, in Volume 3, Chapter 1.

Comment Code: Federal Agency 3-11

Location of EIS Revision(s): None required

Response: The comment concerning the need for the U.S. Bureau of Land Management to update its 1983 review of land withdrawals for the NTS has been noted. Please refer to the discussion in Volume 3, Section 1.4, Use of Lands Withdrawn from the Public Domain, in Chapter 1 of Volume 3.

Comment Code: Federal Agency 3-12

Location of EIS Revision(s): Volume 1, Section 4.2

Response: The text has been corrected to read 1616 km² (624 mi²).

Comment Code: Federal Agency 3-13

Location of EIS Revision(s): Volume 1, Section 4.2.1.1

Response: The text has been revised to clarify that the Tonopah Test Range is part of the NAFR Complex.

Comment Code: Federal Agency 3-14

Location of EIS Revision(s): Volume 1, Section 4.3.1.1

Response: The sentence stating that the Project Shoal Area has been released by the Atomic Energy Commission to the U.S. Bureau of Land Management was in error and has been deleted from the text.

Comment Code: Federal Agency 3-15

Location of EIS Revision(s): Volume 1, Section 4.3

Response: The EIS has been revised to clarify the fact that access roads are located on the Project Shoal Area.

Comment Code: Federal Agency 3-16

Location of EIS Revision(s): Volume 1, Section 4.3.1.1

Response: Information provided previously by the U.S. Bureau of Land Management for the Special Nevada Report indicated that 2,560 acres for the Project Shoal Area were withdrawn by Public Land Order 2771 and corrected by Public Land Order 2834. The EIS has been revised to reflect the correct withdrawal information.

Comment Code: Federal Agency 3-17

Location of EIS Revision(s): Volume 1, Section 4.3.1.1

Response: The comment has been noted, and the EIS has been revised accordingly. See response to Comment Code Federal Agency 3-16.

Comment Code: Federal Agency 3-18

Location of EIS Revision(s): Volume 1, Section 4.3.1.1

Response: As noted in the response of the two previous related comments, the EIS has been revised to delete reference to the land use permits; see response to Comment Code Federal Agency 3-16.

Comment Code: Federal Agency 3-19

Location of EIS Revision(s): Volume 1, Section 4.3.1.2

Response: The EIS has been revised to delete reference to the Navy's use of this area.

Comment Code: Federal Agency 3-20

Location of EIS Revision(s): Volume 1, Section 4.3.10

Response: The EIS has been revised to correctly indicate 2,560 acres.

Comment Code: Federal Agency 3-21

Location of EIS Revision(s): Volume 1, Section 4.4.1.1

Response: The EIS has been revised to reflect the Public Land Orders for these three Central Nevada Test Areas.

Comment Code: Federal Agency 3-22

Location of EIS Revision(s): Volume 1, Section 4.4.1

Response: The EIS has been revised. The DOE agrees that both Public Land Orders are still in effect.

Comment Code: Federal Agency 3-23

Location of EIS Revision(s): Volume 1, Section 4.5

Response: The EIS has been revised to reflect the current status of acreage that has been transferred in Eldorado Valley to Boulder City.

Comment Code: Federal Agency 3-24

Location of EIS Revision(s): None required

Response: Please refer to the discussion in Volume 3, Section 1.4, Use of Lands Withdrawn from the Public Domain.

Comment Code: Federal Agency 3-25

Location of EIS Revision(s): None required

Response: If additional lands are required, the DOE would take all necessary steps to obtain the necessary access.

Comment Code: Federal Agency 3-26

Location of EIS Revision(s): None required

Response: Please see the response to Comment Code Federal Agency 3-25.

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Comment Code: Federal Agency 3-27

Location of EIS Revision(s): None required

Response: Some aspects of Alternative 2 may cause non-compliance with state agreements, and with state and federal law. The Council on Environmental Quality regulations do not require the dismissal of alternatives which contain potential legal issues. The DOE decided to evaluate this alternative in order to look at the full range of use alternatives for the NTS.

Comment Code: Federal Agency 3-28

Location of EIS Revision(s): None required

Response: The return of any DOE lands to the Bureau of Land Management or other land-management agencies would be contingent upon the verification that these lands are suitable for public use. For additional information refer to the discussion in Volume 3, Sections 1.4 and 1.8.

Comment Code: Federal Agency 3-29

Location of EIS Revision(s): None required

Response: Under Alternative 2, the Project Shoal Area and the Central Nevada Test Area would remain under DOE control.

Comment Code: Federal Agency 3-30

Location of EIS Revision(s): Volume 1, Section 4.3.1

Response: The comment concerning the Navy's use of the Project Shoal Area is noted. The DOE has not authorized the Navy to use any lands within this area, but the Navy does use the airspace. The EIS has been modified to reflect this.

Comment Code: Federal Agency 3-31

Location of EIS Revision(s): None required

Response: As noted in the response to Comment Code Federal Agency 3-2, this broad-level or sitewide EIS is a program-level document. As such, there will not be an additional programmatic-level EIS for the NTS following this Final EIS, although the DOE is currently preparing other programmatic EISs that affect the NTS, as discussed in Volume 1, Section 1.4. As noted, there may be additional National Environmental Policy Act documents prepared for specific projects or actions which are not analyzed, but will reference or tier from this EIS.

Comment Code: Federal Agency 3-32

Location of EIS Revision(s): None required

Response: As noted in the response to Comment Code Federal Agency 3-2 and 3-31, this is a broad-level or site-wide EIS. As such, there may be additional National Environmental Policy Act documents prepared for specific projects or actions which will reference or tier from this EIS. This process is discussed in Volume 1, Section 2.1 of the EIS.

Comment Code: Federal Agency 3-33

Location of EIS Revision(s): Volume 1 Glossary

Response: The EIS has been reviewed for terminology with which the public may not be familiar. As a result of the review, the Glossary has been modified for clarity and updated with additional definitions for previously undefined terms.

Comment Code: Federal Agency 3-34

Location of EIS Revision(s): None required

Response: Detailed descriptions of radiological dose, effects, and radioactive decay and fission are discussed in Volume 1, Appendix H (e.g., Section 2.1, "General Risk Assessment Concepts"), which includes a Glossary of Terms. Effects of radiation on biological resources at the NTS have been studied extensively in the past, but because of the complex nature of the ecosystems at the NTS, effects have not been identified for all species exposed to a variety of radioactive substances. Results of some of the more comprehensive studies that may be helpful in explaining radiological implications are discussed in Volume 1, Section 4.1.6 and Section 5.1.1.6.

Comment Code: Federal Agency 3-35

Location of EIS Revision(s): None required

Response: Because of a lack of information about the effects of all types of radiation on the biological resources at the NTS, a comprehensive table cannot be readily developed to show critical exposure for plants and key wildlife species or groups found on the NTS. However, effects of radiation on biological resources at the NTS have been studied extensively in the past and results of some of the more comprehensive studies that may be helpful in describing critical exposures are discussed in Volume 1, Section 4.1.6 and Section 5.1.1.6.

Comment Code: Federal Agency 3-36

Location of EIS Revision(s): Volume 1, Glossary

Response: With the exception of the word "significant," the words specified are general and do not have specialized or technical meanings. The Glossary provided in the Final NTS EIS is meant to aid the reader by

defining technical and specialized terms. A definition for the word "significant," as used in the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act context, has been added to the Glossary.

Comment Code: Federal Agency 3-37

Location of EIS Revision(s): None required

Response: Chapter 2, Section 2.4.2 of the NTS EIS provides the transuranic waste definition and management requirements. This chapter references 40 CFR 191, which is listed in the Chapter 2 references. The actual regulations and standards are maintained in the EIS Administrative Record.

Comment Code: Federal Agency 3-38

Location of EIS Revision(s): None required

Response: As noted in the response to Comment Code Federal Agency 3-2, 3-31, and 3-32, this is a broad-level or sitewide EIS.

The NTS is a large area where a number of projects and activities are currently undertaken simultaneously or are proposed for future implementation. For proper management and analyses purposes, these projects and activities have been categorized into five programs: Defense, Waste Management, Environmental Restoration, Nondefense Research and Development, and Work for Others. The analyses of projects and activities under each of these programs have not been presented individually but are included in the analysis at the program level to the extent project information was available. Some projects have not yet been fully defined to conduct project-specific analysis but they were determined to be essential for a full and open disclosure of the potential effects of an alternative. The demonstration project for disposal/destruction of rocket motors, cited in the comment, falls under this category. The information developed so far and presented in Appendix A indicates that the existing underground tunnels at the NTS would be used to demonstrate the disposal/destruction of solid rocket motors by a contained static burning method that scrubs the gaseous combustion products prior to atmospheric release and provide for in-situ containment/treatment of residual debris. The demonstration project, therefore, is not expected to result in significant air quality emissions. Still, the description of this project in Appendix A clearly states that an environmental plan would be prepared and air quality permits would be obtained from the State of Nevada prior to the implementation of the project.

Comment Code: Federal Agency 3-39

Location of EIS Revision(s): None required

Response: Please refer to the response in Comment Code Federal Agency 3-38. As noted in the response to Comment Code Federal Agency 3-2, 3-31, 3-32, and 3-38, this is a broad-level or sitewide EIS.

Comment Code: Federal Agency 3-40

Location of EIS Revision(s): None required

Response: As stated in the text, Volume 1, Section 2 is intended to provide a brief summary of each of the five programs at the NTS. Volume 1, Chapter 4, *The Affected Environments*, describes each of these programs in more detail. Volume 1, Section 4.1.1.5 presents information on the requirements for waste acceptance and Appendix A presents further detail.

Low-level waste must be containerized, and is subject to specific acceptance criteria prior to being approved for shipment to the NTS. The waste form has strict requirements for stabilization; i.e., liquids shall be absorbed or solidified; the waste may contain no infectious agents, pressurized containers, hazardous constituents regulated by the EPA, polychlorinated biphenyls, or explosives. In addition, there are strict requirements for the size and strength of the disposal container.

A performance assessment describes the disposal sites' capability to isolate the waste from the environment and takes no credit for the protection provided by the container to mitigate radionuclide migration. A disposal site meeting the performance objective under this scenario is capable of containing waste under more stringent conditions than it would be subjected to.

Comment Code: Federal Agency 3-41

Location of EIS Revision(s): None required

Response: This EIS is a programmatic-type EIS, and as such, it evaluates the impacts of potential actions as well as ongoing and reasonably foreseeable specific activities. Actions considered in this EIS may at a later time be more explicitly analyzed in an environmental assessment which could address only the narrower proposal being considered without restating information contained in this EIS. Activities proposed after this Final EIS is published would receive a case-by-case evaluation and additional National Environmental Policy Act documents would be prepared, as necessary. In the case of a proposal for a major program, a separate EIS may be warranted.

The heavy industrial facility is conceptual. The specific nature of the facility, acreage requirements, water and power consumption, and other resource impacts have not been fully defined. This facility was originally intended as a tritium production facility, but the NTS was not selected as the site for this project. However, the footprint and resource requirements have been retained in the impact analysis for Alternative 3 as that of a large, heavy industrial facility. The NTS may at some future time be considered for siting of a mixed oxide fuel facility, one of the alternative technologies evaluated in the Storage and Disposition of Weapons-Usable Fissile Materials Programmatic EIS (a Defense Program), and also for a commercial satellite launch and recovery facility (a Nondefense Research and Development Program). These contemplated activities are bounded by the general evaluation of the large, heavy industrial facility identified in Alternative 3. Once these or other proposals become more defined, additional National Environmental Policy Act reviews will be conducted in the context of the programmatic heavy industrial facility analysis, and further refined as necessary.

Comment Code: Federal Agency 3-42

Location of EIS Revision(s): Appendix A, Section A.1.3.1.3

Response: Rocket motor destruction is not part of Defense Program activities and should not have been mentioned in Volume 1, Section A.1.3.1.3. The program is described in Volume 1, Section A.5.1.4, Conventional Weapons Demilitarization. The paragraph that appears as part of Volume 1, Section A.1.3.1.3 has been deleted from the Final NTS EIS.

Comment Code: Federal Agency 3-43

Location of EIS Revision(s): None required

Response: These activities represent potential defense and related research-and-development activities, and are not well defined, thus detailed discussion of the impacts cannot be accomplished. The DOE will conduct appropriate project-specific National Environmental Policy Act reviews as projects become better defined.

Comment Code: Federal Agency 3-44

Location of EIS Revision(s): None required

Response: While the EIS is lengthy and very complex due to its wide scope, the DOE attempted to present information as clearly as possible. Appendix A provides details on each known activity, project, and program.

Comment Code: Federal Agency 3-45

Location of EIS Revision(s): Volume 1, Sections 1.6.2, and 3.6

Response: Pursuant to 40 CFR 1502.14(e), the DOE did not identify a Preferred Alternative in the Draft NTS EIS. As the public comment process has progressed, the DOE decisionmaking process on other issues has advanced as well. The evaluation of the alternatives and the identification of the future direction of the NTS have become clearer, and a Preferred Alternative was drafted and proposed to DOE Headquarters organizations for review. This process has included an assessment of public and agency comments. The Preferred Alternative identified in this Final EIS is a result of that process. The process of defining the Preferred Alternative is described in the EIS in Section 3.6. of Volume 1.

Comment Code: Federal Agency 3-46

Location of EIS Revision(s): Volume 1, Sections 1.6.2, and 3.6

Response: Section 3.6 in Volume 1 of the EIS describes how the DOE determined the Preferred Alternative.

Comment Code: Federal Agency 3-47

Location of EIS Revision(s): Volume 1, Section 4.1.6, and Section 5.1.1.6

Response: Changes have been made in Volume 1, Sections 4.1.6 and 5.1.1.6 to provide information and citations describing impacts to biota from past, present, and future activities.

Comment Code: Federal Agency 3-48

Location of EIS Revision(s): Volume 1, Section 4.1.6 and Section 5.1.1.6

Response: Volume 1, Sections 4.1.6 and 5.1.1.6 were revised to include what is known about impacts to biological resources related to past and current activities, and to discuss potential impacts of future activities.

Comment Code: Federal Agency 3-49

Location of EIS Revision(s): Volume 1, Section 4.1.6 and Section 5.1.1.6

Response: Volume 1, Sections 4.1.6 and 5.1.1.6 were revised to include what is known about impacts to wildlife and to discuss potential impacts of future activities. Impacts resulting from nonradiological contaminants projected for each alternative were also discussed in Volume 1, Section 5.3.1.6, Section 5.5.1.1, and Section 5.5.4.1.

Comment Code: Federal Agency 3-50

Location of EIS Revision(s): None required

Response: Information regarding the number of acres of each plant community that occurs on the NTS was unavailable for this EIS. Existing information included a generalized map of major vegetation associations taken from Beatley (1976) (referenced in Volume 1, Section 4.1.6 of the EIS) which could not be used to quantify the aerial extent of each association. A reliable estimate of the number of acres of each vegetation association that would be affected by the various alternatives was also unavailable, because the exact location of many program activities within each alternative are not currently known (but will be determined during subsequent project-specific National Environmental Policy Act reviews). In lieu of this, the DOE was able to identify the total amount of acres, sitewide, which could be disturbed under each alternative. (See Table S-3 of the Summary and Table 3-5 of Chapter 3.)

The DOE acknowledges that the requested information will be needed to manage the natural resources of the NTS in the manner described in Volume 2 of the EIS. Future siting of many activities will be guided by the goals of the *Resource Management Plan* to use existing infrastructures whenever possible and minimize habitat loss within each vegetation association. Monitoring changes in the aerial extent of each dominant plant association on the NTS may be necessary to assess ecological sustainability. In anticipation of this need, the DOE began to compile a Geographic Information System-based, sitewide vegetation map in October 1995 using existing and new multispectral aerial photography and satellite imagery and ground truthing. The NTS vegetation map is expected to be completed by the summer of 1997. For additional information, refer to Section 1.7 of Volume 3 and Volume 2.

Comment Code: Federal Agency 3-51

Location of EIS Revision(s): Volume 1, Section 4.1.6

Response: A paragraph was added to Volume 1, Section 4.1.6 to provide the requested information.

Comment Code: Federal Agency 3-52

Location of EIS Revision(s): Volume 1, Section 4.1.6

Response: The text in Volume 1, Section 4.1.6 has been changed to acknowledge that springs occurring at the NTS do support wetland (hydrophytic) vegetation, which likely constitute wetlands as defined by the U.S. Army Corps of Engineers (Corps) pursuant to Section 404 of the Clean Water Act. Because no activities were identified that would modify these springs, studies to characterize them to determine whether they are "jurisdictional wetlands" have been deferred. Although no activities have been identified at this time by any of the alternatives that potentially affect wetlands at the NTS (see Section 4.1.6, Biological Resources), it is acknowledged that activities which would impact wetlands would be subject to acceptable wetland mitigation and permitting as regulated by the Corps. Section 4.1.6 has been revised to provide more information about potential wetlands.

Detailed descriptions of wetlands resources at the NTS are brief to nonexistent. A few photographs have been taken historically to document site foundations. Specimens of a few wetland plants are contained in the herbarium at the NTS. The NTS wetlands are generally very small in size. Water supplies at some springs and seeps have been historically developed by miners and ranchers by enlarging the mouth of the spring to create pools or by directing outflows into small, localized adjacent areas. Wetlands associated with springs that are more remotely located are relatively free of introduced species such as tamarisk and other weedy species. Wetlands vegetation at many springs, especially Captain Jack Spring shows signs of continued and heavy use by horses and other wildlife (Hunter, 1994; 1995).

During the summer of 1996, the DOE will be conducting surveys of wetland areas at the NTS to characterize them and determine their potential as "jurisdictional wetlands." Vegetation and wildlife will be identified, and site characteristics described. A policy of protecting wetland areas will be developed as part of the *Resource Management Plan* which will incorporate findings from the NTS wetland surveys and recommendations from interested stakeholders and regional land-use managers. Refer to Volume 2 and Section 1.7 of Volume 3.

Comment Code: Federal Agency 3-53

Location of EIS Revision(s): None required

Response: No activities have been identified in any of the alternatives that would impact wetlands or springs on the NTS. Please refer to the response to Comment Code Federal Agency 3-52.

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Comment Code: Federal Agency 3-54

Location of EIS Revision(s): None required

Response: Management of NTS wetland resources will be developed as part of the *Resource Management Plan*. The process of developing management practices for the *Resource Management Plan* includes opportunities for public and agency input and suggestions as to how these resources and their associated biota, such as endemic invertebrates, could best be managed while conducting programs that require groundwater as described under Alternative 3. Because it is not anticipated that groundwater discharge rates or quantities at any of the NTS springs will be impacted by proposed activities (Volume 1, Section 5.3.1.5.2, Groundwater), the DOE has no current plans to identify the invertebrate species at NTS springs.

Comment Code: Federal Agency 3-55

Location of EIS Revision(s): Volume 1, Sections 5.3.1.6, 5.3.5.6, 5.3.6.6, 5.3.7.6, 5.4.1.6, 5.5.1.1, and 7.6

Response: Surface-disturbing activities may cause the irretrievable loss of many individual small mammals, reptiles, and soil-dwelling invertebrates. The destruction of nests and eggs of ground-nesting birds that are protected under the Migratory Bird Treaty Act will be mitigated by conducting pre-activity surveys at proposed project sites prior to the start of construction. The presence of these and other protected or sensitive species will be determined, and construction activities will be altered to avoid harm to these resources. For example, construction may be scheduled to occur during the non-breeding seasons, or individuals of a proposed or candidate plant species or of a plant species of concern may be avoided. Text has been added to Volume 1, Chapters 5 and 7 to reflect these impacts and proposed mitigation measures.

Comment Code: Federal Agency 3-56

Location of EIS Revision(s): None required

Response: The impact of exposure of birds to fluids contained in drilling sumps is identified in Volume 1, Section 5.1.1.6 of the EIS. The most severe impact to individual birds which was considered in this EIS was immediate drowning. The proposed mitigation is to place flag lines across all open drill sumps and containment sumps that contain contaminants. This mitigation action is identified in Volume 1, Section 7.6, of the EIS.

The DOE has flagged active drill sumps and no bird mortalities have been reported at these sumps. The DOE initiated a monitoring program in 1995 to survey all active ponds and document any wildlife mortalities. The efficacy of using flag lines to prevent bird drownings will be evaluated as part of the monitoring program. If mortalities are documented at flagged ponds, then the DOE will evaluate other mitigation measures, such as netting the sumps during the migratory season.

Comment Code: Federal Agency 3-57

Location of EIS Revision(s): None required

Response: The effects of activities on viability were evaluated at the level of the population, as described in Volume 1, Appendix E, Section E.2.6.1. Populations were defined as in Krebs (1985, *Ecology: The Experimental Analysis of Distribution and Abundance*, Third Edition, Harper and Row, New York) as a group of organisms of the same species that can potentially interbreed. Because there are few natural barriers to most widely distributed plants and animals found on the NTS, the range of these populations generally are quite large, extend beyond the NTS, and will not experience long-term negative effects from proposed activities. In contrast, there are some species, primarily plants, that have small, isolated populations, the viability of which could be negatively impacted if they are disturbed. Impacts on the viability of those populations are pointed out in Volume 1, Section 5.3.1.6.

Comment Code: Federal Agency 3-58

Location of EIS Revision(s): Volume 1, Section 5.1.1.4

Response: In response to this comment, text has been added to Volume 1, Section 5.1.1.4 to clarify reclamation considerations, which include size of the area, future use, nature of soils, annual precipitation, slope aspect, and site location. Following the removal of the soils and vegetation, the site would be immediately stabilized using commercially available chemical soil stabilizers which would control erosion until the next step in the reclamation process. Options to be considered include natural revegetation, gravel armoring, chemical stabilization, seeding, planting, and irrigating. When highly intensive revegetation techniques are necessary, subsoils could be amended and irrigation could be used. At drier sites, irrigation could be used to encourage germination and plant establishment. Because the site would be stabilized (except during removal of the soils), no sediments are expected to reach the playas. The soil removal process at all contaminated sites will be designed so as to prevent sediment flow to surrounding uncontaminated soil, including playas. Therefore, no adverse effects are anticipated for the playa. Volume 1, Section 4.1.6 provides additional discussion of variables that influence natural plant succession rates, revegetation techniques, and revegetation successes.

Comment Code: Federal Agency 3-59

Location of EIS Revision(s): Volume 1, Section 4.1.6

Response: See Volume 1, Section 4.1.6 of the Final NTS EIS for a discussion of revegetation problems, techniques, and success.

Comment Code: Federal Agency 3-60

Location of EIS Revision(s): Volume 1, Chapter 4

Response: The DOE has revised all Biological Resources Sections in Volume 1, Chapter 4 of the Final NTS EIS to reflect this new Notice of Review.

Comment Code: Federal Agency 3-61

Location of EIS Revision(s): Volume 1, Chapter 4

Response: The DOE has revised all biological resource sections in Volume 1, Chapter 4 of the Final NTS EIS to reflect the fact that there are currently no Category 2 candidate species as a result of the February 28, 1996, Notice of Review (61 F.R. 7596).

Comment Code: Federal Agency 3-62

Location of EIS Revision(s): None required

Response: All of the former Category 2 plants that were discussed in the Draft NTS EIS were removed from detailed discussion in the Final NTS EIS because of the change in their status. Information regarding the known range of each of these plant species known to occur on the NTS, the Tonopah Test Range, and Area 13 are discussed in the following document, which is referenced in both Volume 1 and Volume 2 of the Final NTS EIS: *Current Distribution, Habitat, and Status of Category 2 Candidate Plant Species On and Near the U.S. Department of Energy's Nevada Test Site* (Blomquist et al., 1995). A copy of this document has been sent to the Nevada State Office of the U.S. Fish and Wildlife Service.

Comment Code: Federal Agency 3-63

Location of EIS Revision(s): Volume 1, Section 7.6

Response: Information concerning the range of those plant species formerly classified as Category 2 species, but now called Species of Concern, is presented in the reference Blomquist et al., 1995. This document is referenced in Volumes 1 and 2 of the Final NTS EIS. The conclusion is that DOE activities both now and in the future are unlikely to impact the survival of these species based on their known ranges and population locations on the NTS. Text has been added, however, to Volume 1, Section 7.6, "Mitigation Measures for Biology," to indicate that pre-activity surveys will be conducted and will identify the presence of important biological resources, such as Species of Concern, at proposed project sites. The DOE would modify a project if this project would eliminate a local population of a Species of Concern and that population represented a significant portion of the species' range.

Comment Code: Federal Agency 3-64

Location of EIS Revision(s): Volume 1, Section 4.1.6

Response: The concern that National Wildlife Refuge impacts were not fully addressed is noted. Additional information has been added to the EIS to expand the discussion, but sufficient information may not be available to fully address a specific issue. As projects are defined that may have wide-reaching impacts or there are impacts identified which may affect a component of the National Wildlife Refuge, that information will be discussed with appropriate agencies.

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Comment Code: Federal Agency 3-65

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: The following text was added to the EIS:

As part of the groundwater investigations being conducted through their Environmental Restoration Program, the DOE is developing regional groundwater flow and tritium transport models that include the NTS and the Ash Meadows area. These models will be of use in evaluating the effects of past DOE actions and future DOE groundwater withdrawals on the NTS. The DOE is also working with the National Park Service in evaluating observed water level fluctuations at Devils Hole.

Comment Code: Federal Agency 3-66

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: The following text was added to the EIS:

The Department of the Interior has expressed concern that groundwater withdrawals in Yucca Flat in excess of the perennial yield may affect Ash Meadows, Devils Hole, and Death Valley. Preliminary groundwater modeling was performed as part of this EIS (GeoTrans, 1995a), and additional, detailed modeling is underway. As part of the groundwater investigations being conducted through the Environmental Restoration Program, the DOE is developing regional groundwater flow and tritium transport models that include the NTS and these environmentally sensitive areas. These models will be of use in evaluating the effects of past DOE actions and future DOE groundwater withdrawals on the NTS. The results of these models are not yet available, but they will be available for future National Environmental Policy Act reviews prior to the construction of any projects that are expected to result in significant adverse impacts. The DOE is also working with the National Park Service in evaluating observed water level fluctuations at Devils Hole.

Comment Code: Federal Agency 3-67

Location of EIS Revision(s): None required

Response: As described in Volume 1, Section 7.6, the DOE has consulted with the U. S. Fish and Wildlife Service, as required by the Endangered Species Act, to assess the impacts of proposed activities on threatened and endangered species and their critical habitats. During this process, mitigation and monitoring programs designed to conserve the species have been discussed, and appropriate measures will be implemented.

Comment Code: Federal Agency 3-68

Location of EIS Revision(s): Volume 1, Section 5.1.1.6

Response: Text has been added to Volume 1, Section 5.1.1.6 which discusses the likelihood of impacts near the west boundary of the Desert National Wildlife Range. The DOE recently prepared a biological resources monitoring plan for the Spill Test Facility and sent it to the U.S. Fish and Wildlife Service in January 1996 for review. This plan establishes a protocol of monitoring spills that will create chemical plumes expected to

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extend beyond the boundaries of the Frenchman Lake Playa. The plan concludes that approved tests do not result in downwind air concentration of toxic chemicals that could harm biota on the Desert National Wildlife Range.

Comment Code: Federal Agency 3-69

Location of EIS Revision(s): None required

Response: The routes evaluated in the transportation risk analysis are not proposed routes; they were chosen as a sample of representative routes only. Route selection is the responsibility of the carrier, who is chosen by the shipper (generator). Routes selected must comply with the U.S. Department of Transportation regulations [49 CFR 397.101(a)]. In addition, local concerns, such as congested roadways and proximity to critical habitats, may be shared with the carrier. Routing constraints, however, will not be specified in the NTS EIS. Please refer to the discussion in Section 1.6 of Volume 3.

Comment Code: Federal Agency 3-70

Location of EIS Revision(s): None required

Response: No adverse impacts are anticipated to occur near the west boundary of the Desert National Wildlife range as a result of testing at the Spill Test Facility. See response to Comment Code Federal Agency 3-68.

Comment Code: Federal Agency 3-71

Location of EIS Revision(s): Volume 1, Chapter 6

Response: The cumulative impact analysis has been rewritten and updated.

Comment Code: Federal Agency 3-72

Location of EIS Revision(s): Volume 1, Section 6.4.6

Response: The text of Volume 1, Section 6.4 dealing with cumulative effects to biological resources has been rewritten to include a discussion of wildlife other than desert tortoises. Since the information in this document indicated few direct impacts to most species of wildlife, the focus of the analysis was on indirect impacts due to possible disturbances to about 15,600 acres of habitat. The projected disturbances, except for the Solar Enterprise Zone, would be relatively small in size and widely distributed within the remaining undisturbed habitat. Because the NTS is surrounded by federal lands that are managed, in part, for wildlife, it is unlikely that the small amount of disturbed habitat would result in cumulative, negative effects to biological resources in the region.

Comment Code: Federal Agency 3-73

Location of EIS Revision(s): Reference sections for each chapter.

Response: Sources were added to the text and many of the tables appearing in the Final NTS EIS; they were also included in the reference sections that follow each chapter.

Comment Code: Federal Agency 3-74

Location of EIS Revision(s): Volume 1, Section 4.1.6

Response: Volume 1, Section 4.1.6 was revised to include bibliographic references and a summary of significant findings related to the uptake of radionuclides by plants.

Comment Code: Federal Agency 3-75

Location of EIS Revision(s): Reference sections for each chapter

Response: The DOE concurs that the author and title of each reference used in a chapter needs to be cited in the chapter's reference section. These sections have been updated.

Details regarding time and location of research and the validity of the data are contained in the referenced documents. Copies of the documents are available in DOE reading rooms throughout the state. Most references are also available through the public library.

Comment Code: Federal Agency 3-76

Location of EIS Revision(s): Reference sections for each chapter.

Response: Reference lists appearing at the end of each chapter were revised to include sources cited in the Final NTS EIS.

Comment Code: Federal Agency 3-77

Location of EIS Revision(s): None required

Response: It is understood that the programmatic Section 7 consultation will cover the program activities of the DOE Defense, Waste Management, Environmental Restoration, Nondefense Research and Development, and Work for Others Programs. No other programs or activities are anticipated to be included in the preferred action alternative; therefore, it is not expected that another programmatic Section 7 consultation will be required.

Comment Code: Federal Agency 3-78

Location of EIS Revision(s): None required

Response: Existing standards are based on effective dose equivalent to humans. The reasonable assumption is that by protecting any member of the public adequately, protection would be provided to the native flora and fauna. However, monitoring programs do include measurement of environmental media as a part of the modeling effort to determine exposures to people.

Comment Code: Federal Agency 3-79

Location of EIS Revision(s): None required

Response: The term "as low as reasonably achievable" (ALARA) is the process of reducing radiation exposures and a definition has been added to the Glossary. This is a fundamental requirement of every radiological control program.

The ALARA Committee at the NTS reviews all operations where a radiation exposure is possible and evaluates whether the operations are necessary and, if so, the precautions that are to be taken to reduce the individual's radiation dose to a minimum before approving the operation and issuing a radiation work permit. If additional precautions are needed, the committee returns the request with recommended changes. The request must then be revised and resubmitted for approval.

Comment Code: Federal Agency 3-80

Location of EIS Revision(s): None required

Response: Adverse impacts associated with previous testing have occurred in specific locations on the NTS to a number of environmental resources including soils, geological media, and groundwater, as identified in Volume 1, Chapters 4 and 5. Certain further activities (e.g., underground nuclear device tests) would add to these adverse impacts. Nuclear weapons testing programs at the NTS did not impact all portions of the NTS but did substantially impact some localized areas.

Comment Code: Federal Agency 3-81

Location of EIS Revision(s): Volume 1, Section 4.1.6

Response: Volume 1, Section 4.1.6 was revised to include a discussion about the uptake of radionuclides by flora and fauna.

Comment Code: Federal Agency 3-82

Location of EIS Revision(s): Volume 1, Section 4.1.6

Response: Volume 1, Section 4.1.6 was revised to include information on the uptake of radionuclides by plants and animals and studies of cytological and chromosomal effects and their significance.

Comment Code: Federal Agency 3-83

Location of EIS Revision(s): Volume 1, Section 4.1.6

Response: Volume 1, Section 4.1.6 was revised to include a discussion of reproduction and recruitment in mammalian populations occupying habitats containing varying concentrations of radionuclides.

Comment Code: Federal Agency 3-84

Location of EIS Revision(s): None required

Response: For additional information, the reader is referred to the reference list included in McArthur, 1991, which is formally cited in Volume 1, Section 4.8 of the EIS. The DOE has conducted dozens of surveys and studies; the results of these surveys are provided in the soil contamination maps presented in the EIS. A discussion of each soil-mapping survey and all of the research projects that have been conducted is too detailed and voluminous for inclusion in the EIS. Summary information is, however, provided in Volume 1, Section 4.1.4.3.

Comment Code: Federal Agency 3-85

Location of EIS Revision(s): None required

Response: The DOE, through its technology development program, has developed several methods for cleaning soils contaminated with plutonium and, to date, has found none that worked satisfactorily. Any promising technologies will be evaluated in the future.

Trials are ongoing to determine methods for reclamation of disturbed areas. Reclamation plans, when appropriate, are tailored to the individual sites and would be evaluated in the site-specific Corrective Action Plans and National Environmental Policy Act documents. These plans may include soil salvage. The importance and re-establishment potential of cryptogamic crusts will be addressed in these plans when appropriate.

Comment Code: Federal Agency 3-86

Location of EIS Revision(s): None required

Response: A discussion of organisms of special concern is included in Volume 1, Sections 4.1.6, 5.1.1.6, and 7.6. Section 5.1.1.5.1 indicates that, "No significant change in surface water quality or quantity is anticipated and, thus, the impacts would be negligible." Since changes to the surface run-off beyond the NTS boundaries are not anticipated, no impacts to organisms of concern are anticipated.

Comment Code: Federal Agency 3-87

Location of EIS Revision(s): Volume 1, Section 4.1.5.1

Response: The other two springs, Tub Spring and Gold Meadows, are sampled when the discharge is large enough to allow sampling, which is infrequent. The text has been modified accordingly.

Comment Code: Federal Agency 3-88

Location of EIS Revision(s): None required

Response: Volume 1, Table 4-21, provides gross beta concentrations measured at seven of the nine springs. The text in Volume 1, Section 4.1.5.1 indicates that none of the results exceeded the strontium-90 Derived Concentration Guide for drinking water; therefore, no potential effects to species which consume water at the springs can be reasonably anticipated.

Comment Code: Federal Agency 3-89

Location of EIS Revision(s): Volume 1, Section 4.1.5.1

Response: The text has been modified to reflect the results of spring discharge sampling.

Comment Code: Federal Agency 3-90

Location of EIS Revision(s): Volume 1, Section 4.1.5.1

Response: All of the containment ponds discussed in Volume 1, Section 4.1.5 of the EIS are either on Pahute Mesa or Yucca Flat, outside the desert tortoise habitat. Only 2 of the 11 ponds are currently active (E Tunnel ponds) and there is no fencing surrounding them which would prevent access by wildlife. No flagging has been placed on these ponds to prevent migratory birds from landing on them. Over the past 30 years the DOE has monitored the uptake of radionuclides in game species (deer, bighorn sheep, chukar) which may periodically drink from these ponds. In 1994, four deer samples collected quarterly and analyzed for contamination contained a median value of 40 pCi/L of tritium in the blood (DOE/NV, 1995a). No tritium was found in the chukar although samples were taken in Area 25 some distance from the containment ponds. Current histopathological analyses of the four deer collected in 1994 showed no tissue abnormalities due to

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radiation exposure (DOE/NV, 1995a). In October 1995 the DOE initiated a monitoring program aimed at quantifying wildlife species use of man-made water sources on the NTS.

Comment Code: Federal Agency 3-91

Location of EIS Revision(s): None required

Response: The annual average of gross beta analyses, a measurement of radioactivity, is the arithmetic average of all gross beta analyses for a given sampling location in the given calendar year. The last column in Table 4-22 provides the reader with a basis for evaluating these figures with the drinking water standards for humans. Although the exact levels of exposure that are safe for the various groups of wildlife that were using these ponds are not known, it is assumed that levels would be safe if drinking water standards are maintained. The DOE has implemented a monitoring program to evaluate the use of these ponds by wildlife.

Comment Code: Federal Agency 3-92

Location of EIS Revision(s): None required

Response: The risk to the various groups of wildlife that may be using these ponds will vary among groups and among species within groups. Although the exact levels of exposure that are safe for each group are not known, the DOE assumes that if levels are maintained within safe drinking water standards, wildlife would not be impacted. The DOE has implemented a biomonitoring program to evaluate radiation uptake and accumulation by game species. See response to Comment Code Federal Agency 3-90.

Comment Code: Federal Agency 3-93

Location of EIS Revision(s): Chapter 4, Section 4.1.5.2

Response: As part of their Wellhead Protection Program for the NTS, the DOE recently completed capture zone models for each water supply well and mapped the area of influence for each well. These models used a very conservative approach that assumed that each well was run continuously for a period of 10 years. The results of these analyses indicate that for each well, the area of influence is restricted. Only at Army Well 1 does the capture zone extend beyond the NTS boundaries. No impacts on springs or biological resources are anticipated as a result of the operation of these wells. Revisions have been made in Volume 1, Section 4.1.5 to incorporate this information.

Comment Code: Federal Agency 3-94

Location of EIS Revision(s): None required

Response: Volume 1, Section 4.1.5.2 of the EIS describes the status of groundwater in Yucca Flat and Frenchman Flat. Because development of most plant roots is restricted to within 1 m of the soil surface and no groundwater reaches the surface at springs or seeps in these areas (no springs are found at Yucca Flat or Frenchman Flat, Figure 4-40 of the EIS), there is no known effect of deep groundwater on the biological

resources of these area. No reports of impacts to biological resources from fluctuating water tables or decreased down gradient subsurface drainage in Frenchman Flat have been identified.

Comment Code: Federal Agency 3-95

Location of EIS Revision(s): None required

Response: The referenced text is merely a major topical overview of one of the specific Hydrologic Resources Management Program studies. For detailed information, the commentor is referred to the cited references in the Final NTS EIS.

Comment Code: Federal Agency 3-96

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: For additional information concerning the DOE's Hydrologic Resources Management Program, the commentor is referred to the new text in Volume 1, Section 4.1.5.2 and the references which have been added to this section.

Comment Code: Federal Agency 3-97

Location of EIS Revision(s): None required

Response: Table 4-28 lists materials used in underground nuclear testing. However, the fate of many of these materials as a result of underground testing is not fully understood, and no estimates are available concerning the total quantity or form of these materials that may still remain in the subsurface at the NTS.

The main concern with regard to any hazardous or toxic materials that may remain in the subsurface after an underground test is their mobility (i.e., ability to travel into and within groundwater). The Environmental Restoration Program, through the Underground Test Area Subproject at the NTS, is in the process of assessing the occurrence, distribution, and mobility of contaminants in the vicinity of the expended nuclear tests. Once the data from the Underground Test Area Subproject has reduced the level of uncertainty in the groundwater model to an acceptable level, then the impact of any of these remaining materials that may be mobilized along the groundwater pathway can be assessed.

Comment Code: Federal Agency 3-98

Location of EIS Revision(s): Volume 1, Table 4-30

Response: The status of the bald eagle has been changed to threatened in the Final NTS EIS.

Comment Code: Federal Agency 3-99

Location of EIS Revision(s): Volume 1, Table 4-30

Response: This change in status of *Astragalus beatleyae* has been noted in the Final NTS EIS.

Comment Code: Federal Agency 3-100

Location of EIS Revision(s): Volume 1, Section 4.1.6

Response: The following text was added for clarification: There are no springs in the valley bottom areas.

Comment Code: Federal Agency 3-101

Location of EIS Revision(s): Volume 1, Section 4.1.6

Response: A paragraph was added to Volume 1, Section 4.1.6 to provide the requested information.

Comment Code: Federal Agency 3-102

Location of EIS Revision(s): Volume 1, Section 4.1.6

Response: Volume 1, Section 4.1.6 was revised to provide a summary of the results of past ecological studies that included monitoring plants and animals on the NTS, and references to relevant documents. Results of the studies indicated that ecological impacts resulting from DOE programs on the NTS did not differ in type or magnitude from those resulting from other human activities that disturb desert ecosystems.

Comment Code: Federal Agency 3-103

Location of EIS Revision(s): None required

Response: The DOE acknowledges that the U.S. Fish and Wildlife Service has determined that the desert tortoises in the Rock Valley study enclosures are considered "pre-Act" (U.S. Fish and Wildlife, 1996). Modification of the document to clarify their status under the Endangered Species Act would only be appropriate if the DOE were proposing activities that would impact these tortoises. Under Alternative 2, no continued monitoring of the enclosed desert tortoises would occur and no impacts would occur. Under the other alternatives, continued annual monitoring would continue but would have little likelihood of adverse effects since none have been documented over the past 30 years of monitoring.

Comment Code: Federal Agency 3-104

Location of EIS Revision(s): None required

Response: Marking and measuring free-roaming tortoises on the NTS was authorized by a Section 10 Permit PRT-744522 issued on March 13, 1990, to Reynolds Electrical and Engineering Co., Inc. The permit has expired and the DOE has no plans to mark or measure any additional free-roaming tortoises.

Comment Code: Federal Agency 3-105

Location of EIS Revision(s): Volume 1, Section 4.5

Response: Information provided regarding the land transferrals and conservation easement has been incorporated into the Final NTS EIS.

Comment Code: Federal Agency 3-106

Location of EIS Revision(s): Volume 1, Section 4.5.6, Section 4.6.6

Response: The text in Volume 1, Section 4.5.6 of the Final NTS EIS concerning biological resources of Eldorado Valley has been modified to indicate that although the Solar Enterprise Zone does not occur in a critical habitat, it is adjacent to the Paiute-Eldorado Critical Habitat Unit. The text in Volume 1, Section 4.6.6 of the Final NTS EIS concerning biological resources of the Dry Lake Valley has been modified to indicate that the Solar Enterprise Zone occurs adjacent to the Mormon Mesa Critical Habitat Unit. It is understood that when a site is selected, further evaluation of project environmental impacts will be conducted according to the National Environmental Policy Act, and a Section 7 Consultation with Fish and Wildlife Service will be initiated.

Comment Code: Federal Agency 3-107

Location of EIS Revision(s): None required

Response: Large-scale groundwater withdrawals are not anticipated under the proposed action of Alternative 1 and localized water-level declines in areas adjacent to operating water supply wells are not considered significant impacts (Volume 1, Section 5.1.1.5.2). Data and records for monitoring wells in the region do not show any effects that might be attributed to water withdrawals on the NTS. Furthermore, results of past investigations have not found any impacts resulting from DOE operations on key environmentally sensitive areas of Devils Hole National Monument and Ash Meadows (Volume 1, Section 5.1.1.5.2). Should monitoring data or simulation models indicate any adverse impacts to water quantity or quality at springs at the NTS or offsite and these impacts could affect threatened, endangered, proposed, or candidate species at the spring, then Section 7 consultation with the U.S. Fish and Wildlife Service would be initiated by the DOE as per the requirements of the Endangered Species Act.

Potential large-scale groundwater withdrawals under Alternative 3 are primarily associated with the Solar Enterprise Zone. Quantities of water required would depend on the desired power generation levels, technology to be used, location, aquifer, perennial yield, and other water use in the area. The photovoltaic

technology would not require water and would have no impact on groundwater. The remaining three technologies may require contributions of groundwater that are estimated not to exceed about 6,850,000 m³ (Volume 1, Section 5.3.1.5.2). It is considered very unlikely that such withdrawals would have any significant adverse impact on downgradient water levels or spring discharge rates (Volume 1, Section 5.3.1.5.2). Potential impacts from the Solar Enterprise Zone on the biological resources would be addressed in a future site-specific National Environmental Policy Act review if there is a federal nexus.

Comment Code: Federal Agency 3-108

Location of EIS Revision(s): None required

Response: Under the discussion of groundwater (Volume 1, Section 5.1.1.5.2) the statement is made that "grading of soils and other construction actions could alter slightly the quantity and quality of run-off." No plans have been identified to significantly alter drainages, including alluvial fans. Alterations in areas to be revegetated would consist primarily of mixing surface soils and subsoils and alteration of erosion pavement in localized areas. It is recognized that there will be changes in the vegetation on the disturbed areas consistent with revegetation efforts used at the site, and there may be slight effects on downgradient plant species composition, although such effects have only rarely been observed down-slope of previous disturbance in the past, perhaps because of the relatively permeable nature of most soils on the NTS. Mitigation used as part of the final revegetation will be to restore, as far as is feasible, slope gradients and drainage patterns to those encountered prior to disturbance to minimize impacts to down-slope vegetation.

Comment Code: Federal Agency 3-109

Location of EIS Revision(s): None required

Response: Impacts to biological resources for the Solar Enterprise Zone are found in Volume 1, Section 5.3.1.6, "Nondefense Research and Development Program." Descriptions of impacts associated with each technology were not included, because the base facility for each technology would likely disturb about the same acreage (2,400 acres) and have similar biological impacts. Impacts associated with the solar thermal parabolic-trough technology would have the largest impact to biological resources, and would disturb 2,182 of additional acreage due to construction of a gas pipeline, but would likely be confined to previously disturbed rights-of-way. Upgrades in transmission facilities would be about the same for each technology. All technologies except the photovoltaic technology, the technology with the least impact to biological resources, would also require various amounts of water, although water use from deep groundwater sources would have little or no impact on springs on the NTS or biological resources.

Comment Code: Federal Agency 3-110

Location of EIS Revision(s): None required

Response: If the Coyote Spring Valley site were selected for this project, further analysis would be conducted concerning the pumping and use of groundwater upgradient from the Muddy River warm springs system. This analysis would be necessary for inclusion both in required National Environmental Policy Act evaluations of the proposed project as well as in the Section 7 Consultation with the Fish and Wildlife Service. It is

understood that groundwater pumping which alters the discharge of groundwater at Muddy Spring may significantly impact the Moapa dace and other plant and animal species of concern which rely on the spring.

Comment Code: Federal Agency 3-111

Location of EIS Revision(s): None required

Response: Please refer to the response to Comment Code Federal Agency 3-69 for the response to this comment.

Comment Code: Federal Agency 3-112

Location of EIS Revision(s): None required

Response: Please refer to the response to Comment Code Federal Agency 3-69 for the response to this comment.

Comment Code: Federal Agency 3-113

Location of EIS Revision(s): Volume 1, Appendix C

Response: The text in Volume 1, Appendix C of the Final NTS EIS has been amended to incorporate the recommended addition concerning the intent of the National Wildlife Refuge System Administration Act.

Comment Code: Federal Agency 3-114

Location of EIS Revision(s): Volume 1, Appendix C

Response: The text in Volume 1, Appendix C of the Final NTS EIS concerning the Bald and Golden Eagle Protection Act has been amended to incorporate the recommended addition concerning the intent of the Migratory Bird Treaty Act.

Comment Code: Federal Agency 3-115

Location of EIS Revision(s): Volume 1, Appendix C

Response: The text in Volume 1, Appendix C of the Final NTS EIS has been amended to incorporate the recommended addition concerning the intent of the Bald Eagle Protection Act.

Comment Code: Federal Agency 3-116

Location of EIS Revision(s): Volume 1, Appendix E, Section E.2.6

Response: The text for Volume 1, Appendix E, Section E.2.6, was amended to include a description of how the DOE evaluated potential impacts of various activities on species protected under the Migratory Bird Treaty Act and the Bald Eagle Protection Act.

Comment Code: Federal Agency 3-117

Location of EIS Revision(s): None required

Response: The policy for conservation and management of candidate species is cited in Volume 1, Section 4.7. This is a more appropriate location to discuss the policy for management of biological resources than Volume 1, Section 1.3, which is concerned with the DOE's policies for planning and development on the NTS. Refer also to Section 1.7 of Volume 3.

Comment Code: Federal Agency 3-118

Location of EIS Revision(s): None required

Response: Volume 2, Table 2-1 lists all natural resources on the NTS of which the DOE is aware. If the Department of the Interior informs the DOE of other natural resources on the NTS that should be included in the *Resource Management Plan*, they will be added. A request for such information was made in Volume 2, Section 2.1, Step 2.

Chapter 4 contains the goals the DOE has proposed to guide the management of resources. As noted in Volume 2, Section 2.1, Step 3, the DOE will strive to coordinate the development of management actions needed to achieve its goals with the Department of the Interior.

Comment Code: Federal Agency 3-119

Location of EIS Revision(s): Volume 2, Section 2.2

Response: The text has been changed to correct this typographical error.

Comment Code: Federal Agency 3-120

Location of EIS Revision(s): None required

Response: The only proposed action that could result in an impact on Black Canyon and Aztec Springs would be the location of a Solar Enterprise Zone facility in Eldorado Valley. Any impact is considered highly unlikely insofar as water for such a facility would probably be supplied from the existing Lake Mead surface water allocations. In the event that groundwater withdrawals would be required, the impacts of developing

the water would be evaluated during the preparation of a separate National Environmental Policy Act document.

Comment Code: Federal Agency 3-121

Location of EIS Revision(s): None required

Response: The DOE agrees that the National Park Service is faced with considerable uncertainty in protecting its water rights and water-related resources. The DOE has taken the lead in addressing uncertainty with respect to the NTS and downgradient areas between the NTS and Death Valley through its many hydrologic investigations and data collection efforts. The DOE will continue these efforts, but recognizes that some level of uncertainty will remain. See Section 1.11 of Volume 3.

Comment Code: Federal Agency 3-122

Location of EIS Revision(s): None required

Response: No mining or milling operations are anticipated as a result of DOE operations.

Comment Code: Federal Agency 3-123

Location of EIS Revision(s): None required

Response: The level of scrutiny that a particular action receives should be proportional to the degree of groundwater withdrawals and its relative location to environmental sensitive areas. The DOE's proposed actions on the Tonopah Test Range and Nellis Air Force Range require only small quantities of water for site remediation activities, and these sites are located much farther from environmentally sensitive areas of concern at the National Park Service. Therefore, increased scrutiny to a level commensurate with the NTS is not necessary.

Comment Code: Federal Agency 3-124

Location of EIS Revision(s): None required

Response: In an April 1994 letter report to the National Park Service (Lehman and Associates, 1994), Brown and Lehman stated:

"We also conclude that this analysis provides little or no evidence of impact on Devils Hole from recent historical levels of pumping at Army Well #1 near Mercury."

Given this conclusion with respect to the nearest NTS well, it is considered extremely unlikely that well J-12, located even more distant and in a separate subsystem of the Death Valley flow system, could be the cause of historic fluctuations in water levels in Devils Hole. As such, a discussion in the text of the EIS is not considered to be warranted.

Comment Code: Federal Agency 3-125

Location of EIS Revision(s): None required

Response: The DOE believes that references to the study in question are valid. The National Park Service is encouraged to conduct whatever additional studies that they consider warranted, and the DOE will continue to be an active participant in any National Park Service activities that crosscut with NTS issues.

Comment Code: Federal Agency 3-126

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: The following text has been inserted into the EIS:

The National Park Service continues to implement projects, collect data, support research, and conduct studies investigating the probable cause of the decline of the Devils Hole pool level.

Comment Code: Federal Agency 3-127

Location of EIS Revision(s): Volume 1, Section 3.3

Response: The text has been modified to update the status of the modeling being conducted by the Nevada Environmental Restoration Program. The level of detail requested is not necessary to support the analysis in the EIS.

Comment Code: Federal Agency 3-128

Location of EIS Revision(s): Summary

Response: The Summary has been modified to reflect that the stated value is in recoverable storage and not underflow.

Comment Code: Federal Agency 3-129

Location of EIS Revision(s): None required

Response: The table lists summary presentations of impacts for each alternative. The impacts are discussed in a semiquantitative manner with respect to the perennial yields. The specific effects are discussed in the appropriate technical sections of Volume 1, Chapters 4 and 5. For the sake of brevity, it is not possible to provide more than summary information in Table 3-5.

Comment Code: Federal Agency 3-130

Location of EIS Revision(s): Volume 1, Section 4.1.5.1

Response: The discussion concerning Ash Meadows has been clarified and corrected in the Final NTS EIS.

Comment Code: Federal Agency 3-131

Location of EIS Revision(s): Volume 1, Section 4.1.5.1

Response: The information provided by the Department of the Interior that Texas, Nevares, and Travertine Springs in Death Valley (located downgradient of the NTS) provide a potable water supply for park visitors and a privately owned resort that includes restaurants, motels, hotels, and a golf course has been added to the Final NTS EIS.

Comment Code: Federal Agency 3-132

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: Although no such implication was intended, the discussion has been modified to clarify that the referenced areas are two, separate discharge areas.

Comment Code: Federal Agency 3-133

Location of EIS Revision(s): None required

Response: The discussion in the EIS is consistent with Harrill et al. (1988) which shows an extensive area of discharge in Sarcobatus Flat.

Comment Code: Federal Agency 3-134

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: The discussion in the EIS has been modified to clarify that flow continues onward to Death Valley.

Comment Code: Federal Agency 3-135

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: The following text was added to the EIS:

The perennial yield values could also be smaller if one-half of the underflow between some basins is not considered part of the perennial yield of specific basins, e.g., Frenchman Flat.

Comment Code: Federal Agency 3-136

Location of EIS Revision(s): None required

Response: The studies completed to date have shown no adverse impacts beyond the NTS boundaries including current and pending appropriations in Amargosa Valley and Ash Meadows as a result of DOE's groundwater withdrawals. Water availability for the hydrographic basins where localized impacts occur is summarized in Volume 1, Chapter 4, Table 4-23. Future actions that might impact these areas will be reviewed, additional evaluations performed, and National Environmental Policy Act documentation prepared, as necessary, before the water would actually be withdrawn. The process for conducting these reviews is provided in Volume 2 of the EIS (*Framework for Resource Management Plan*).

Comment Code: Federal Agency 3-137

Location of EIS Revision(s): None required

Response: The referenced section in the Site Characterization Plan for Yucca Mountain (DOE, 1988) was used in the preparation of this section. More recent water use data was used and is presented in the hydrology baseline report prepared for this EIS. This report is included in the Administrative Record and details DOE's groundwater withdrawals since 1988.

Comment Code: Federal Agency 3-138

Location of EIS Revision(s): Section 4, Volume 1, Section 4.1.5.2

Response: The reference to Seaber et al. has been deleted from the text.

Comment Code: Federal Agency 3-139

Location of EIS Revision(s): None required

Response: As stated in the discussion, flow rates are variable and could be much lower or higher than the ranges given.

Comment Code: Federal Agency 3-140

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: The following text was inserted into the EIS:

According to information provided by the U.S. Department of the Interior, flow rates may increase in the vicinity of Ash Meadows. The National Park Service is concerned that contaminant transport may be accelerated toward Devils Hole and Ash Meadows. Because contaminants that remain in the underground testing areas are almost exclusively contained in the alluvial and volcanic aquifers, they must first migrate out of these aquifers and into the carbonates. Therefore, DOE's efforts to model these contaminants has

concentrated on the rate of transport between the aquifers, currently thought to be significantly slower than in the carbonates. The DOE will continue to participate in cooperative investigations with the National Park Service concerning environmentally sensitive areas downgradient of the NTS.

Comment Code: Federal Agency 3-141

Location of EIS Revision(s): None required

Response: The values are consistent with the cited reference which served as the basis for the perennial yield estimates of the basins of the NTS. Because of the uncertainty in the estimates for individual basins, as noted in other Department of the Interior comments, it was not considered appropriate to present discharge estimates at the basin level; rather they are presented for the recognized subsystems of the Death Valley flow system.

Comment Code: Federal Agency 3-142

Location of EIS Revision(s): None required

Response: A number of values have been published concerning flow from Amargosa Valley into Death Valley. The cited value of 6.17×10^6 cubic meter per year (m^3/yr) (5,000 acre feet per year [ac ft/yr]) is consistent with two sources: ERDA (1977) and Burbey and Prudic (1991) who state:

"Geochemical data for springs at this locality [Furnace Creek Ranch] suggest that the $6.17 \times 10^6 m^3$ (5,000 ac ft) of water discharging each year is isotopically similar to the water discharging at Ash Meadows."

Harrill et al. (1988) indicate that $3.70 \times 10^6 m^3/yr$ (3,000 ac ft/yr) discharge from Amargosa Valley into Death Valley, and this value is based upon an estimate made by Walker and Eakin (1963) in the original reconnaissance report for Amargosa Valley. The value of 19,000 appears to be based upon Scott et al. (1971), and the derivation of this number could not be corroborated. Therefore, the DOE chose to use the more recent values presented by the U.S. Geological Survey. It should be noted that variations of this type are not uncommon, and a wide range of estimated values may have been published for a number of interbasin flows.

Comment Code: Federal Agency 3-143

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: A reference citation has been added, and the text has been modified to indicate that this flow may be occurring rather than stating that it does occur.

Comment Code: Federal Agency 3-144

Location of EIS Revision(s): None required

Response: The comment is correct in stating that the water rights for the NTS have not been decreed through a court action. It is DOE's understanding that a federal reservation of water rights is implied when the land

withdrawal is established. If the implied water right is contested, then a court may recognize the priority and quantify the right accordingly. See Section 1.11 of Volume 3.

Comment Code: Federal Agency 3-145

Location of EIS Revision(s): None required

Response: The DOE agrees that the reserved right is only for water not previously appropriated by others as of the date of the reservation, and for the quantity of water necessary to accomplish the purpose of the land withdrawal. See Section 1.11 of Volume 3.

Comment Code: Federal Agency 3-146

Location of EIS Revision(s): None required

Response: The comment is noted. The DOE is currently unaware of any determination that Death Valley water rights are senior to those of the NTS.

Comment Code: Federal Agency 3-147

Location of EIS Revision(s): None required

Response: The comment is noted that some portion of the flow from the springs flows through the NTS. In response to another comment by the National Park Service, the specific springs in Death Valley have been added to the text of the EIS.

Comment Code: Federal Agency 3-148

Location of EIS Revision(s): None required

Response: The DOE is aware that the reserved water rights for Devils Hole must not be adversely affected by a water withdrawal associated with a junior water right.

Comment Code: Federal Agency 3-149

Location of EIS Revision(s): None required

Response: As stated in Volume 1, Section 4.1.5.2 under the subheading water supply, the water resources of the Akali Flat-Furnace Creek Ranch basin are fully appropriated. This section goes on to state that groundwater in the Ash Meadows basin is subject to the rights of the senior water rights holders.

The DOE does not agree that there are any water right issues associated with the proposed actions on the Tonopah Test Range. The proposed actions include the characterization and possible cleanup of contaminated soils during which some small quantities of water may be used for dust abatement.

Comment Code: Federal Agency 3-150

Location of EIS Revision(s): Volume 1, Section 4.5.5.2

Response: The text has been modified to indicate the more recent data presented by Harrill et al., 1988.

Comment Code: Federal Agency 3-151

Location of EIS Revision(s): None required

Response: Given the location available for a Solar Enterprise Zone in Eldorado Valley and the configuration of the water table, areas to the east, including the Colorado River Valley are not within the potentially affected environment. Therefore, a discussion of springs and unquantified water rights in these areas is not included in the EIS.

Comment Code: Federal Agency 3-152

Location of EIS Revision(s): Volume 1, Section 4.6.5.2

Response: The text has been modified accordingly.

Comment Code: Federal Agency 3-153

Location of EIS Revision(s): None required

Response: The DOE is aware that surface water in the Muddy River is fully appropriated. The State Engineer interprets what groundwater may or may not be considered tributary and whether or not that water is available for appropriation and application to a beneficial use.

Comment Code: Federal Agency 3-154

Location of EIS Revision(s): Volume 1, Section 4.7.5.2

Response: The correction has been made to the first sentence in Section 4.7.5.2.

Comment Code: Federal Agency 3-155

Location of EIS Revision(s): None required

Response: Comment noted; however, the Nevada State Engineer's determination (Turnipseed, 1995) concerning recent water right permit applications in that area, granted additional water appropriations, subject to applicable conditions contained in the permit.

Comment Code: Federal Agency 3-156

Location of EIS Revision(s): None required

Response: Please refer to response for Comment Code Federal Agency 3-155.

Comment Code: Federal Agency 3-157

Location of EIS Revision(s): None required

Response: A calibrated groundwater flow model is, in fact, under development by the DOE. However, it may be some time before the model is refined enough to allow such an application. The use of regional models is hampered by the ability of the numerical codes to simulate water levels and spring discharge rates closely enough to accurately simulate the response of an aquifer to distant water withdrawals.

Comment Code: Federal Agency 3-158

Location of EIS Revision(s): None required

Response: Please refer to the response for Comment Code Federal Agency 3-136.

Comment Code: Federal Agency 3-159

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: The National Park Service's concern is noted and was specifically added to the text of the EIS in Volume 1, Section 4.1.5.2 in response to a previous comment (Federal Agency 3-65). As stated in that response, "DOE is also working with the National Park Service in evaluating observed water level fluctuations at Devils Hole."

Comment Code: Federal Agency 3-160

Location of EIS Revision(s): None required

Response: The DOE is aware that surface water in the Muddy River is fully appropriated. As noted in the EIS, the lack of a water supply in the Dry Lake Valley is a serious limitation on the location of a Solar Enterprise Zone at that location. The DOE is aware of the National Park Service's concerns related to the Muddy River and the springs.

Comment Code: Federal Agency 3-161

Location of EIS Revision(s): None required

Response: Please refer to Comment Code Federal Agency 3-153.

Comment Code: Federal Agency 3-162

Location of EIS Revision(s): None required

Response: The DOE is aware that surface water in the Muddy River is fully appropriated. As noted in the EIS, the water supply problems associated with Coyote Spring Valley are a serious limitation on the location of a Solar Enterprise Zone at that location. The DOE is aware of the National Park Service's concerns related to the Muddy River and the springs.

Comment Code: Federal Agency 3-163

Location of EIS Revision(s): None required

Response: To the extent that purchase of senior water rights is legally permissible, it should be noted that such an approach would not mitigate the overall environmental impacts; they would simply move the impacts. Given that the Amargosa Valley is the only area where such water rights could be obtained, the water withdrawals would be moved closer to environmentally sensitive areas, and the resulting impacts of such an action are expected to be not only larger, but sooner as well.

Comment Code: Federal Agency 3-164

Location of EIS Revision(s): None required

Response: Should large-scale water withdrawals be required to mitigate contaminant transport, significant study and agency concurrence would be required. The mitigation activities would be implemented within the conditions of the *Resource Management Plan* to ensure that any actions taken are consistent with the objectives of the plan and are in compliance with all applicable laws and regulations. Refer to Volume 2 and Section 1.7 of Volume 3.

Comment Code: Federal Agency 3-165

Location of EIS Revision(s): None required

Response: Changes in water levels, discharge rates, and spring discharges were considered for all areas, including Devils Hole, Ash Meadows, and Death Valley.

Comment Code: Federal Agency 3-166

Location of EIS Revision(s): Volume 1, Section 2.1, and 3.2.3

Response: Concur. The National Park Service has been added to the list of Federal Land Managers.

Comment Code: Federal Agency 4-1

Location of EIS Revision(s): Volume 1, Section 7.6

Response: Mitigation measures are discussed in Volume 1, Chapter 7 of the NTS EIS. While the discussion is general in nature, detailed measures would be defined for a specific project or activity either in the planning process, or through the resource management planning process. With regard to habitat loss or fragmentation, Section 4.7 of Volume 2, *The Framework for the Resource Management Plan* contains a discussion of habitat preservation and the process that will be implemented to ensure habitat protection and preservation. Volume 1, Section 7.6 of the EIS has been revised to reference the use of the *Resource Management Plan*.

Comment Code: Federal Agency 4-2

Location of EIS Revision(s): None required

Response: For the purpose of bounding the environmental impacts in this EIS, the DOE has taken a very conservative approach in determining impacts to resources by assuming that the land resource requirements for new facilities would require 100 percent disturbance of land. Realistically, development on-site would be located on previously cleared land or near existing infrastructures. Prospective locations of proposed facilities would be chosen based upon acreage requirements, proximity to utilities, proximity to the workforce, and the need for security or a buffer zone. The prospective NTS site of the National Ignition Facility is on the north side of Jackass Flats Road adjacent to the existing sanitary sewage system and landfill. Also evaluated is a potential National Ignition Facility location on previously disturbed DOE-owned land in North Las Vegas. Neither the NTS nor the North Las Vegas location are the DOE's preferred location. If either were to be selected, subsequent tiered National Environmental Policy Act documentation would evaluate the proposed sites in greater detail. Minimization of the use of undisturbed areas would be used as a criterion for evaluation.

Comment Code: Federal Agency 4-3

Location of EIS Revision(s): None required

Response: This site-wide EIS is a type of programmatic EIS and as such, it evaluates the impacts of potential actions as well as ongoing and reasonably foreseeable specific activities. Actions considered in this EIS may at a later time be more explicitly analyzed in more detail in a tiered National Environmental Policy Act document which could address only the narrower proposal being considered without restating information contained in this EIS. Likewise, activities proposed after this Final EIS is published would receive a case-by-case evaluation and a tiered National Environmental Policy Act document would be prepared, as necessary. In the case of a proposal for a major project, a separate EIS may be warranted.

The solar and heavy industrial facilities are conceptual. The specific nature of the facility, acreage requirements, water and power consumption, and other resource impacts have not been fully defined. The heavy industrial facility was originally intended as a tritium production facility, but the NTS was not selected as the site for this project. However, the footprint and resource requirements have been retained in the impact analysis for Alternative 3 as that of a large, heavy industrial facility. The NTS may at some future time be considered for siting of a mixed oxide fuel facility, one of the alternative technologies evaluated in the *Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic EIS (DOE, 1996b)* (a Defense Program), and also for a commercial satellite launch and recovery facility (a Non-Defense Research and

Development Program). These contemplated activities are bounded by the general evaluation of the large, heavy industrial facility identified in Alternative 3. Once these or other proposals become more defined, additional National Environmental Policy Act reviews will be conducted in the context of the programmatic heavy industrial facility analysis or solar facility analysis.

Comment Code: Federal Agency 4-4

Location of Text Revision(s): Volume 1, Section 2.4.2; Volume 1, Section 3.1.1.2; Volume 1, Section 4.1.1.5; Volume 1, Section 5.1; Volume 1, Section 7; and Appendix C.6

Response: The DOE has a Waste Minimization/Pollution Prevention Program in place and will continue to maintain this program. A description of the DOE/NV Waste Minimization/Pollution Prevention Program has been added to the Final NTS EIS as Volume 1, Appendix C.6. The description of this program includes the Council on Environmental Quality requirements and the specific elements of the program. In addition, a summary of the Waste Minimization/Pollution Prevention Program has been added to the description of alternatives and to the Mitigation Measures (Volume 1, Chapter 7).

Comment Code: Federal Agency 4-5

Location of EIS Revision(s): None required

Response: Please refer to the response to Comment Code Federal Agency 4-3, which discusses how the Programmatic EIS addresses potential actions.

The solar energy project is conceptual. The specific nature of the facility, acreage requirements, water and power consumption, and other resource impacts have not been fully defined, and the analysis is based on very conservative assumptions. Once a proposal becomes more defined, additional National Environmental Policy Act reviews will be conducted.

Comment Code: Federal Agency 4-6

Location of EIS Revision(s): Volume 1, Section 5.3.1.7

Response: Please refer to the response to Comment Code Federal Agency 4-3 for a discussion of how the Programmatic EIS addresses potential actions. Specific information on the nature and probability of gaseous releases is not known. Statements previously included in the text were based on the formerly-proposed tritium supply and recycling facilities. The referenced statement has been deleted from the Final NTS EIS.

Comment Code: Federal Agency 4-7

Location of EIS Revision(s): Volume 1, Section 7.3

Response: Additional information has been added to the text of the EIS to more clearly describe specific impacts and mitigation measures. It should be noted that this is a site-wide EIS and, in that sense, addresses projects at programmatic level with the intention to conduct, if required, project-specific National

Environmental Policy Act analyses as projects are formally proposed. This is the case with both the solar and heavy industrial facilities, since project-specific details are as yet not available.

Comment Code: Federal Agency 4-8

Location of EIS Revision(s): Volume 2, Section 4.4

Response: The DOE agrees that the protection of undisturbed habitat is important for reducing impacts on the environment. Therefore, a goal has been added to the *Framework for Resource Management Plan* (Volume 2, Section 4.4) stating that new facilities (such as the Solar Enterprise Zone facility and the National Ignition facility) would be located in previously disturbed areas when possible. See also the response to Comment Code Federal Agency 4-2.

Comment Code: Federal Agency 4-9

Location of EIS Revision(s): None required

Response: The recommendation for referencing items from the checklists in the Final NTS EIS and the commitment in the Record of Decision is noted. Information in the EIS and the *Framework for Resource Management Plan* contain elements of the checklists, though not in explicit form. The DOE will ensure that the checklists are incorporated into the National Environmental Policy Act review process as new proposals and projects are evaluated. Also, note the responses to Comment Code Federal Agency 4-4 and 4-7.

Comment Code: Federal Agency 4-10

Location of EIS Revision(s): None required

Response: The only regulated polychlorinated biphenyls (PCBs) items remaining on the NTS are capacitors in Area 27 under the control of Lawrence Livermore National Laboratory. These items are maintained as part of the NTS mission of test readiness. Although they are not currently in service, they are considered active and are managed in accordance with Nevada Administrative Code 444 (NAC, 1992) (40 CFR 761). As part of the ongoing quality checks on equipment that formerly contained PCBs (reclassified equipment), it was determined that the dielectric fluid in one of the transformers contained elevated concentrations of PCBs. The transformer was drained and refilled with non-PCB oil, and the PCB oils were transported offsite for disposal after temporary storage at the Area 6 PCB storage and management facility. (This transformer will go through the declassification process once again.) The only other items known to contain PCBs at the NTS are below the regulatory threshold concentrations of 50 parts per million. As the DOE continues to decommission facilities, electrical equipment will be managed in accordance with regulatory requirements. In the past several years, DOE has also assisted the DoD with disposal operations of PCBs from their ongoing operations within areas that are the DOE's responsibility.

Comment Code: Federal Agency 4-11

Location of EIS Revision(s): Volume I, Appendix C, Clean Air Act, 3rd paragraph

Response: This section has been revised to address this concern by inserting the word "asbestos" after radioactivity.

Comment Code: Federal Agency 5-1

Location of EIS Revision(s): None required

Response: A discussion of Prevention of Significant Deterioration Class I areas near the NTS is provided in Volume 1, Section 4.1.7 of the EIS. The nearest Class I area to the NTS is Death Valley National Park, which is approximately 19 kilometers (12 miles) to the west. The actions proposed in the EIS would not affect any Prevention of Significant Deterioration Class I Areas because the NTS would have no emission sources subject to Prevention of Significant Deterioration review.

Comment Code: Federal Agency 5-2

Location of EIS Revision(s): None required

Response: A discussion of general conformity determination under the Clean Air Act is provided in Volume 1, Section 5.1.1.7 of the EIS.

Comment Code: Federal Agency 5-3

Location of EIS Revision(s): Summary

Response: The text has been revised accordingly.

Comment Code: Federal Agency 5-4

Location of EIS Revision(s): Summary, Table S-3 and Volume 1, Table 3-5

Response: The text referenced in the comments consists of a discussion of mitigation measures. However, Tables S-3 and 3-5 have been revised accordingly.

Comment Code: Federal Agency 5-5

Location of EIS Revision(s): Volume 1, Section 5.3.5.7, Section 5.3.6.7, and Section 5.3.7.7

Response: The text in Volume 1, Sections 5.3.5.7, 5.3.6.7, and 5.3.7.7 has been revised.

Comment Code: Federal Agency 5-6

Location of EIS Revision(s): Volume 1, Sections 5.1.1.8 and 5.3.1.8

Response: The text in Volume 1, Sections 5.1.1.8 and 5.3.1.8 has been revised. No noise modeling for aircraft operations was conducted for this EIS. Based on composite noise contours developed by the U.S. Air Force in 1994 for subsonic and supersonic flight operations over the NAFR Complex (U.S. Air Force, 1994), the day-night average sound level (L_{dn}) in the NTS portion of the complex resulting from aircraft operations would be less than 50 decibels.

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Sovereign Nations

Comment Code: Sovereign Nations 1-1

Location of EIS Revision(s): None required

Response: The DOE presents no proposals in this EIS to build any nuclear power generation facilities at the NTS. The technology to convert low-level waste into nuclear fuel is not currently available.

Comment Code: Sovereign Nations 1-2

Location of EIS Revision(s): None required

Response: The generation of electricity from methane extracted from NTS landfills was not included in any of the alternatives. The amount of methane produced in NTS landfills is insufficient for the generation of electricity. This lack of methane is due to the predominant types of waste (construction wastes) disposed of at the NTS.

Comment Code: Sovereign Nations 1-3

Location of EIS Revision(s): None required

Response: The DOE is sensitive to the concerns of American Indian groups regarding the value of the NTS. Consideration of the American Indian resources and general concerns has been a part of the DOE planning process since 1985. As a result of previously established procedures and ongoing consultation with the Consolidated Group of Tribes and Organizations, sensitive American Indian resources, including burials, will be appropriately acknowledged in project planning and specific concerns will be addressed on a case-by-case basis in consultation with the Consolidated Group of Tribes and Organizations.

Comment Code: Sovereign Nations 2-1

Location of EIS Revision(s): Volume 1, Appendix I, Chapter 2

Response: The DOE agrees that the presentations to the tribal government on transportation issues did not constitute full government-to-government consultation. The text in this section has been revised to remove the implication that government-to-government consultation has been completed. In addition, the DOE will conduct and complete a comprehensive study to assess the potential social and cultural impacts to American Indian people from the transportation of low-level waste. This study will be conducted by the University of Arizona ethnographic staff on behalf of the DOE/ NV. The study will focus on the American Indian people who reside along three of the primary routes previously evaluated for risk in the NTS EIS, and will ensure a full government-to-government relationship among potentially involved tribes and the DOE/ NV. The DOE is committed to having this study reflect the full range of American Indian opinion.

Comment Code: Sovereign Nations 2-2

Location of EIS Revision(s): Volume 1, Appendix I, Chapter 2

Response: The DOE regrets the apparent confusion and agrees that full government-to-government consultation with American Indian Tribes regarding the transportation of low-level waste has not yet occurred. The text in this section has been revised to clear up the confusion. In addition, the DOE/ NV will conduct a comprehensive study to assess the potential social and cultural impacts from the transportation of low-level waste on American Indian people. Please refer to Comment Code, Sovereign Nations 2-1 for more details concerning the proposed study.

Comment Code: Sovereign Nations 2-3

Location of EIS Revision(s): Volume 1, Appendix I, Chapter 2

Response: This section of text has been revised to remove the implication that American Indian tribes have had the opportunity to identify their concerns regarding the transportation of low-level waste, or that full government-to-government consultation has taken place.

Comment Code: Sovereign Nations 2-4

Location of EIS Revision(s): None required

Response: The DOE will conduct a comprehensive study to assess the potential social and cultural impacts from the transportation of low-level waste on American Indian people. The proposed study ensures a full government-to-government relationship between potentially involved tribes and the DOE, and reflects DOE's commitment to have the study elicit the full range of American Indian opinion.

Comment Code: Sovereign Nations 2-5

Location of EIS Revision(s): None required

Response: As previous comments in this letter have correctly pointed out, the current transportation study does not include American Indian issues as it should. The DOE is beginning a comprehensive study to assess the potential social and cultural impacts of the transportation of low-level waste on American Indian people along two of the routes previously evaluated in the NTS EIS.

Comment Code: Sovereign Nations 2-6

Location of EIS Revision(s): None required

Response: State-specific accident rate data (which was the most "local" data available) were used for the portions of the routes inside Nevada. The in-state route risks, reported in Volume 1, Appendix I, used state-specific accident rate data to calculate the risk.

Comment Code: Sovereign Nations 2-7

Location of EIS Revision(s): None required

Response: Railway transportation risks were not calculated for any of the alternatives evaluated in the NTS EIS because currently there is no rail spur providing service to the NTS. If rail risks are calculated, the accident rate data used would be the most recent, up-to-date values available.

Comment Code: Sovereign Nations 2-8

Location of EIS Revision(s): None required

Response: Transportation risk analyses typically do not address potential terrorist activities or sabotage. Terrorism and sabotage are addressed in safeguards and security analyses. Those analyses usually identify the ways a terrorist act or saboteur could disrupt the operation, and then provide an explanation of the safeguards in place to prevent the terrorist or saboteur from succeeding.

Comment Code: Sovereign Nations 2-9

Location of EIS Revision(s): Volume 1, Appendix I, Attachment F

Response: Attachment F has been significantly revised, particularly regarding the cultural resource analysis, which has been deleted from the report since it was deficient with regard to American Indian issues. A comprehensive study will be conducted by the DOE to assess the potential social and cultural impacts on American Indian people of the transportation of low-level waste.

Comment Code: Sovereign Nations 2-10

Location of EIS Revision(s): Volume 1, Appendix I, Attachment F

Response: The land use and affected environment sections of this report have been deleted. See response to Sovereign Nations 2-1 for discussion of a planned comprehensive study.

Comment Code: Sovereign Nations 2-11

Location of EIS Revision(s): Volume 1, Appendix I, Attachment F

Response: The land use and affected environments sections of this report have been deleted. See response to Sovereign Nations 2-1 for discussion of a planned comprehensive study.

Comment Code: Sovereign Nations 2-12

Location of EIS Revision(s): Volume 1, Appendix I, Attachment F

Response: The land use and affected environments sections of this report have been deleted. See response to Sovereign Nations 2-1 for discussion of a planned comprehensive study.

Comment Code: Sovereign Nations 2-13

Location of EIS Revision(s): None required

Response: Attachment E of Appendix I in Volume 1, "Transportation Study" of the Draft NTS EIS was prepared to address certain transportation concerns raised during scoping for the NTS EIS. The rail access study considered and incorporated the applicable portions of previous studies that considered potential rail routes serving the NTS. These studies included some drafted as part of the Yucca Mountain Project Studies (Figure F-1 was drawn from one of these Yucca Mountain Project Studies). Other sources were city of Caliente corridor studies, a draft report of high-speed surface transportation between Las Vegas and the NTS, and a 1962 Atomic Energy Commission feasibility study at the NTS.

The intent of Attachment E of Appendix I in Volume 1, was to initiate a dialogue regarding the issue of rail and truck transportation options to the NTS. As stated in its introductory section, there was no intent to propose rail as an access alternative in the NTS EIS. Any future proposal would be subject to appropriate National Environmental Policy Act analysis, including consultation with the Sovereign Nations and public input, when and if it is ripe for decision.

This attachment has been revised in the Final NTS EIS to remove any confusion created in the Draft version.

The Yucca Mountain Repository EIS will be prepared to consider the potential environmental impacts associated with the construction, operation, and eventual closure of a repository at Yucca Mountain, Nevada. It will include analysis of transportation of spent nuclear fuel and high-level radioactive waste from producer and generator sites across the nation. As stated in Volume 1, Section 3.2.6.1 of the NTS EIS, the Repository EIS will incorporate information from the NTS EIS and other EISs as appropriate, to support its analysis. The CGTO, along with all other organizations and members of the public, will have the opportunity to review and comment on the Draft Repository EIS when it has been released, and the DOE will again consider and respond to these comments as part of finalizing the Repository EIS.

Comment Code: Sovereign Nations 2-14

Location of EIS Revision(s): Volume 1, Appendix I, Attachment E

Response: The location of the Moapa Paiute Indian Reservation has been added to Figures E-2 and E-4.

Comment Code: Sovereign Nations 2-15

Location of EIS Revision(s): Volume 1, Appendix I, Attachment E

Response: Figures E-2 and E-4 have been corrected.

Comment Code: Sovereign Nations 2-16

Location of EIS Revision(s): Volume 1, Appendix I, Attachment F

Response: This section has been deleted from the text in response to Comment Code Sovereign Nations 2-11.

Comment Code: Sovereign Nations 2-17

Location of EIS Revision(s): Volume 1, Appendix I, Attachment E

Response: The term "Indian Reservation" has been deleted from Figure E-1 for consistency since no other reservations were identified. As part of the ongoing comprehensive American Indian transportation issues study, new and better maps that correctly identify the affected reservations will be drawn.

Comment Code: Sovereign Nations 2-18

Location of EIS Revision(s): Volume 1, Appendix I, Attachment E

Response: This section has been deleted from the text in response to Comment Code Sovereign Nations 2-11.

Comment Code: Sovereign Nations 2-19

Location of EIS Revision(s): Volume 1, Appendix I, Attachment E

Response: This section has been deleted from the text response to Comment Code Sovereign Nations 2-11.

Comment Code: Sovereign Nations 2-20

Location of EIS Revision(s): Volume 1, Appendix I, Attachment E

Response: The stated purpose of this discussion has been rewritten to indicate that it is provided as an introduction to any reader of alternate transportation options for radioactive and hazardous waste, and as a basis for beginning future discussions, which, for the NTS, will include full government-to-government consultation between the DOE and American Indian tribal governments.

Comment Code: Sovereign Nations 3-1

Location of EIS Revision(s): None required

Response: The DOE acknowledges the position of the Western Shoshone National Council.

Comment Code: Sovereign Nations 4-1

Location of EIS Revision(s): Volume 1, Section 5.1.1.12

Response: The comment is correct when it states that all members of the American Indian groups that have well-established cultural ties to the NTS would be equally affected, and that groups that live closer to the NTS would not be more severely affected than groups that live farther away. The reference to Figure 4-48 in Volume 1, Section 5.1.1.12 was intended to show that potential impacts to American Indian groups are not related in proximity to the NTS. This has been clarified in the text in Volume 1, Section 5.1.1.12.

Comment Code: Sovereign Nations 5-1

Location of EIS Revisions(s): None required

Response: The DOE acknowledges the additional concerns regarding issues related to the long-term effects of radiation exposure, nuclear waste transportation and storage, environmental justice, health, and socioeconomics. The DOE also believes these to be important issues, and will continue these discussions with the Sovereign Nations through continuing government-to-government consultation.

State Government

Comment Code: State Government 1-1

Location of EIS Revision(s): Volume 1, Section 1.6 and 3.6

Response: The recommendation for identifying the Preferred Alternative is noted. The Final NTS EIS describes the DOE's preferred alternative in Volume 1, Section 3.6.

Comment Code: State Government 2-1

Location of EIS Revision(s): None required

Response: The initial land withdrawal which created the Nevada Test Site (NTS) specifically acknowledged the primary purpose of the NTS as a weapons testing site. The various secondary activities pursued by DOE and its predecessor agencies at the NTS have all been compatible with the primary purpose for which the land was withdrawn. The DOE will consult with the Department of the Interior and engage in the appropriate process to ensure that future activities being contemplated by the DOE are undertaken in compliance with applicable federal land law and policy. See also the discussion in Section 1.4 of Volume 3.

Comment Code: State Government 2-2

Location of EIS Revision(s): None required

Response: The DOE disagrees with the comment's characterization of the No Action Alternative. The DOE has defined No Action as the continuation of past and current activities. This is consistent with guidance provided by the Council on Environmental Quality (46 FR 18026, March 23, 1981). The NTS presently serves as a disposal site for low-level waste generated by DOE-approved generators. Moreover, managed radioactive waste-disposal operations began at the NTS in the early 1960s, and waste has been disposed of in selected pits, trenches, landfills, and boreholes. Alternative 1 (No Action) acknowledges this historic use of the NTS, and would continue these current operations so that DOE could provide waste disposal capabilities to NTS generators and to currently approved off-site DOE waste generators. Alternative 2 evaluates the cessation of activities.

Comment Code: State Government 2-3

Location of EIS Revision(s): None required

Response: The DOE agrees with the state's comments concerning the importance of protecting people from exposure to contamination and has implemented numerous safeguards to protect workers and the public from exposure to radioactive elements at the NTS. In that regard, the current land withdrawals are of unlimited duration and, as Nevada notes, the State Legislature has consented to these withdrawals.

The DOE has never claimed exclusive jurisdiction nor does it intend to acquire exclusive jurisdiction over the NTS. By letter of November 22, 1968, DOE's predecessor agency, the U.S. Atomic Energy Commission,

responded to Nevada's cession of jurisdiction pursuant to N.R.S. 328.170, by accepting concurrent civil and criminal jurisdiction with the state of Nevada. Also, Nevada has historically exercised jurisdictional authority at the NTS pursuant to several environmental statutes, including the Resource Conservation and Recovery Act, the Clean Air Act and the Clean Water Act, and continues to do so.

The State's commitment to protect both the people and the environment is well known and shared by the DOE. In view of this commitment, it is not reasonably foreseeable that access to any contaminated areas at the NTS will cease to be controlled. Furthermore, to the extent that certain areas cannot be remediated to levels which would permit return to public land status, the DOE has begun informal consultations with the Department of the Interior to ensure that future activities being contemplated by the DOE are undertaken in compliance with applicable federal law and current land management policy.

The DOE strongly encourages the state to take every opportunity provided under federal law to be involved in DOE plans and activities to ensure that the health and safety of employees and the public are adequately protected.

Comment Code: State Government 2-4

Location of EIS Revision(s): None required

Response: The DOE has established an environmental restoration program whose focus is to identify clean-up actions and requirements in consultation with the state of Nevada. It is not clear at this time that those levels will be background or some other level defined by the future use of the land. The DOE has established a program to ensure that the public does not have unrestricted access to lands on the NTS. These programs have been and continue to be effective in isolating contamination and over the 10-year period examined in this EIS are expected to continue to be effective. See previous response to Comment Code State Government 2-3.

Comment Code: State Government 2-5

Location of EIS Revision(s): Volume 1, Introduction

Response: The text in Volume 1 has been modified to describe the relationship between the *Resource Management Plan* and the NTS EIS. See Volume 2 and Section 1.7 in Volume 3.

Comment Code: State Government 2-6

Location of EIS Revision(s): Volume 1, Introduction

Response: The Introduction to Volume 1 explains more fully the DOE's policy regarding the principles of ecosystem management and sustainable development.

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Comment Code: State Government 2-7

Location of EIS Revision(s): None required

Response: In Volume 1 of the NTS EIS, the change in DOE policies regarding land and facility use is discussed in Section 2.3, "Purpose and Need for DOE Action." This section describes the *Resource Management Plan* and its relationship to the NTS EIS. Volume 2 discusses in Section 1.3, "Policy and Procedures," the changes in DOE direction and the land-use planning concepts of the Plan. The DOE does not consider it necessary to modify these descriptions.

Comment Code: State Government 2-8

Location of EIS Revision(s): Volume 2, Section 1.3, Section 1.5, and Section 4.4

Response: The DOE agrees that the concepts of resource stewardship and sustainable development should be emphasized in Volume 2. Section 1.3 has been modified to include the concept of sustainable development. Section 1.5 has been modified to emphasize the importance of stewardship of natural resources in the *Resource Management Plan*. The DOE also agrees that the importance of conserving undisturbed land for maintaining ecosystem health and soil-water-biota is important. Therefore, a goal has been added under Section 4.4 of Volume 3 (Land) reflecting the DOE's commitment to protecting undisturbed land as much as possible.

Comment Code: State Government 2-9

Location of EIS Revision(s): None required

Response: The DOE will give serious consideration in the Record of Decision to completing the *Resource Management Plan*. However, a specific schedule for implementation will probably not be finalized in time for publication in the Record of Decision.

Comment Code: State Government 2-10

Location of EIS Revision(s): Volume 1, Section 1.4; and Volume 1, Section 3.2.6.1

Response: The first paragraph of Volume 1, Section 1.4, "Relationship of This Sitewide Environmental Impact Statement and Other Statements," refers the reader to Volume 1, Section 3.2.6.1, for a description of the NTS EIS that the DOE plans to prepare for the Yucca Mountain Project. (The Draft NTS EIS incorrectly referred the reader to Section 3.2.7.1 and the reference has been changed.) Section 3.2.6.1 has been expanded to provide further explanation on why the Yucca Mountain Repository Program is outside the scope of the NTS sitewide EIS. See also Section 1.1 of Volume 3.

Comment Code: State Government 2-11

Location of EIS Revision(s): None required

Response: To the extent necessary, information developed through the Yucca Mountain Project has been used in the NTS EIS. As the *Resource Management Plan* is developed, use of relevant information developed by the Yucca Mountain Project will be made.

Comment Code: State Government 2-12

Location of EIS Revision(s): None required

Response: The comment is incorrect. The National Environmental Research Park was discussed in the Draft NTS EIS. The National Environmental Research Park is part of the Nondefense Research and Development Program under Alternatives 1, 3, and 4. It is identified in Section 3.1.1.4, "Nondefense Research and Development Program under Alternative 1." In Section 3.1.3.4, "Nondefense Research and Development Program under Alternative 3," it is stated that the program described under Alternative 1 would continue. In Section 3.1.4.4, "Nondefense Research and Development under Alternative 4," it is stated that the program described under Alternative 3 would continue. Table 3-4 clearly shows the presence of the Environmental Research Park as part of Nondefense Research and Development. The program is described in Appendix A, "Description of Projects and Activities," in Section A.4.1.5.

Comment Code: State Government 2-13

Location of EIS Revision(s): None required

Response: The designation of a landmark by the National Park Service under the National Natural Landmarks Program is a voluntary act by the landowner or land manager. Protection of these landmarks is likewise voluntary. Adverse impacts to this large landmark over the next 10 years from any of the alternatives examined in the NTS EIS are not expected to occur.

Comment Code: State Government 2-14

Location of EIS Revision(s): None required

Response: Consistent with the DOE implementation plan in response to the Defense Nuclear Facilities Safety Board Recommendation 94-2, DOE performance assessments will be a composite analysis of pre- and post-1988 waste plus other interactive source terms. This analysis will comply with DOE Order 5820.2A and Recommendation 94-2. While not yet completed, it is expected that performance objectives will be met.

Changes to DOE Order 5820.2A have not yet been determined and cannot be included in the Final NTS EIS. It is more appropriate to discuss changes to the Order after it has been amended.

Comment Code: State Government 2-15

Location of EIS Revision(s): None required

Response: DOE Order 5820.2A requires that "field organizations with disposal sites shall prepare and maintain a site specific radiological performance assessment for the disposal of waste for the purposes of demonstrating compliance with the performance objectives..." There is no requirement that waste disposal cease until a performance assessment is prepared. The DOE has prepared and continues to maintain performance assessments for the Area 3 and Area 5 Radioactive Waste Management Sites.

The Area 5 Radioactive Waste Management Site Performance Assessment was completed in February 1992 and submitted to the DOE Peer Review Panel. Based on DOE Peer Review Panel comments, the revised Performance Assessment was prepared in June of 1995 (Shott et al. 1995). The revised Area 5 Performance Assessment is currently under review by the DOE Peer Review Panel. A final version reflecting the DOE Peer Review comments is expected to be completed by January 1997.

The DOE plans to maintain the Area 5 Performance Assessment as required by DOE Order 5820.2A. A separate performance assessment is being prepared to evaluate the Fernald Operable Unit 4 Waste, a waste stream not previously evaluated in the Area 5 Performance Assessment. This analysis is expected to be completed in September 1996. An update of the Area 5 Performance Assessment is scheduled to be completed in October 1998. This revision will evaluate all collocated waste types (low-level waste, mixed, and transuranic) disposed of since the beginning of the DOE operations and any residual soil or groundwater contamination from the DOE operations as requested by the Defense Nuclear Facilities Safety Board in their Recommendation 94-2.

The first Draft Performance assessment for the Area 3 Radioactive Waste Management Site was prepared in September 1991 (ORNL, 1991). This revision will consider all collocated waste types and any residual radioactivity left in place by DOE operations. In addition, this revision will be based on new site characterization data collected in Fiscal Years 1996 and 1997. Site-specific conceptual models will be refined based on the results of site-characterization studies. Preliminary analysis of data collected during Fiscal Year 1995 supports the "no groundwater pathway" conceptual model.

Thus, the DOE believes it has sufficient existing information to support its conclusion that current and proposed disposal operations do not result in unacceptable impacts and has used this information in the development of the NTS EIS.

Comment Code: State Government 2-16

Location of EIS Revision(s): None required

Response: DOE is required to describe the affected environment in sufficient detail to inform the public and decisionmakers of the potential impacts of the proposed action and alternatives. The NTS EIS summarizes information on the environmental fate of the radiological source in sufficient detail to inform the reader and the decisionmakers regarding potential environmental impacts. Maps of the distribution of radionuclides on the NTS are in Volume 2, *The Framework for Resource Management Plan* (Plates 3 and 4). Regulatory standards have not been established for soils; clean-up standards will be determined in consultation with state

regulatory agencies during the Environmental Restoration Program. These standards will be applied to not only the NTS, but also to the Tonopah Test Range, the Project Shoal Area, and the Central Nevada Test Area.

Comment Code: State Government 2-17

Location of EIS Revision(s): None required

Response: The DOE believes that sufficient information is provided concerning the radionuclide source term in the unsaturated zone, in that an entire subsection of the NTS EIS is devoted to this topic (Subsurface Radiologic Sources in Section 4.1.4.2). This section details the best available estimates for the remaining inventory of radionuclide activity from shallow borehole and deep borehole tests. See Section 1.10 of Volume 3.

Comment Code: State Government 2-18

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: Additional text has been added to the NTS EIS about these two programs.

Comment Code: State Government 2-19

Location of EIS Revision(s): None required

Response: Information concerning the areas of superficial contamination is provided in Section 4.1.4.3, Radiological Sources in Soil; and in Plates 3 and 4 of the *Framework for Resource Management Plan*.

Comment Code: State Government 2-20

Location of EIS Revision(s): Volume 1, Appendix A, Section A.2.1.2, and Chapter 2, Section 2.4.2; Volume 1, Chapter 3, Section 3.1.3.2

Response: Text has been added to the Final NTS EIS to explain the term "special case waste" in the context of the NTS Waste Management Program. Refer to Section 1.12 of Volume 3 for a discussion of this issue.

Comment Code: State Government 2-21

Location of EIS Revision(s): Volume 1, Section 2.4.2

Response: The term "special case waste" is not a formal waste category, but rather is an informal designation DOE uses for low-level waste that may require measures beyond normal low-level waste disposal procedures to meet waste acceptance criteria. Refer to Section 1.12 of Volume 3.

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Comment Code: State Government 2-22

Location of EIS Revision(s): Volume 1, Appendix A, Sections A.2.1.2, A.2.3.2, and Chapter 2, Section 2.4.2; Volume 1, Chapter 3, Section 3.1.3.2

Response: The DOE is in the early stages of planning for the management of greater-than-Class-C low-level waste. Appropriate National Environmental Policy Act documentation will be prepared when a proposal for action is formulated. Refer to Section 1.12 of Volume 3.

Comment Code: State Government 2-23

Location of EIS Revision(s): None required

Response: "Environmental Consequences" are described in Chapter 5. Baseline information is presented in Chapter 4. The project or activity-specific information upon which the analysis was based is in Appendix A. The methods of analysis are described in Appendix E.

Comment Code: State Government 2-24

Location of EIS Revision(s): None required

Response: The DOE believes that state-of-the-art assessment methodologies have been used in the NTS EIS.

Comment Code: State Government 2-25

Location of EIS Revision(s): Volume 1, Chapter 6

Response: The Chapter on "Cumulative Impacts" has been expanded in the Final NTS EIS. This includes a broader discussion of the methods used and an expansion of the base against which the cumulative impacts have been derived. A more quantitative approach to the analyses has also been included in the Final NTS EIS.

Comment Code: State Government 2-26

Location of EIS Revision(s): Volume 1, Chapter 6

Response: The information in Chapter 6, "Cumulative Impacts," has been expanded in the Final NTS EIS. See the response to Comment Code State Government 2-25. The analyses were conducted to ensure that they inform the reader of the cumulative impacts of each alternative.

Comment Code: State Government 2-27

Location of EIS Revision(s): Volume 1, Chapter 6 and Appendix I

Response: An expanded assessment of impacts from the past, present, and foreseeable future transportation of radioactive wastes and special nuclear materials has been added to Volume 1, Chapter 6 and Appendix I. This would account for potential activities included in Alternative 3 in which other DOE sites would transport low-level waste and mixed waste to the NTS for disposal. As a separate action, special nuclear materials (plutonium and highly enriched uranium) would be sent to the NTS for demilitarization activities and storage.

Comment Code: State Government 2-28

Location of EIS Revision(s): Volume 1, Chapter 6

Response: The information in Chapter 6, "Cumulative Impacts," has been expanded in the Final NTS EIS. This includes an evaluation of the impacts from transportation in the state of Nevada. See the response to Comment Code State Government 2-25.

Comment Code: State Government 2-29

Location of EIS Revision(s): Volume 1, Chapter 6

Response: Volume 1, Appendix H, assesses the human health risks associated with the treatment, storage, and disposal of radioactive waste and special nuclear material at the NTS. Volume 1, Appendix I, assesses the human health risks associated with the transportation of radioactive waste and special nuclear material. Chapter 5 of the NTS EIS summarizes the results of the risk studies documented in Appendices H and I. The Cumulative Impact Analysis in Chapter 6 has been revised to assess the cumulative effect of these NTS actions along with other past, present, and reasonably foreseeable actions in that region.

Comment Code: State Government 2-30

Location of EIS Revision(s): Volume 1, Chapter 3, Section 3.2.6.1, and Volume 1, Chapter 6

Response: Section 3.2.6.1 has been revised to clarify that the only activities currently authorized at Yucca Mountain are site characterization activities to determine the suitability of the site for development as a repository. The discussion also now notes that the NTS EIS includes site characterization activities at Yucca Mountain in the discussion of the existing environment at the NTS (Chapter 4), as well as in the analysis of cumulative impacts (Chapter 6).

Possible future activities at Yucca Mountain, such as construction, operation, and closure of a repository, are dependent on the DOE's first determining that the site is suitable, recommending to the President that the site be developed as a repository, and obtaining Congressional authorization, as well as a Nuclear Regulatory Commission license. These actions, if they occur, are beyond the 10-year timeframe covered by this EIS.

The cumulative impacts associated with developing a potential repository at Yucca Mountain, including transportation of wastes by highway and rail, added to other past, present, and reasonably foreseeable actions at the NTS and the surrounding region, will be analyzed in the Repository EIS. The Repository EIS will consider the information presented in this NTS EIS, as well as other National Environmental Policy Act documents, and will update that information to the extent that it is relevant to the analysis and to the extent that additional information is available.

See additional discussion of this topic in Section 1.1 of Volume 3.

Comment Code: State Government 2-31

Location of EIS Revision(s): Volume 1, Chapter 6

Response: The information in Chapter 6, "Cumulative Impacts," has been expanded in the Final NTS EIS. See the response to Comment Codes State Government 2-25 and 2-28.

Comment Code: State Government 2-32

Location of EIS Revision(s): None required

Response: By social/cultural/political impacts, it is assumed that the comment is referring to stigma effects. Potentially stigmatizing effects of various NTS activities do not seem to have affected the economy negatively in southern Nevada. See additional response under Section 1.9 of Volume 3.

Comment Code: State Government 2-33

Location of EIS Revision(s): None required

Response: The analysis of employment and population is a necessary element in the identification of impacts on other socioeconomic elements such as local government revenue and expenditures, housing, and public services. Population increases, for example, do not necessarily result in positive contributions to state and local economics. If unusually large population increases occur as a result of a project over a short period of time, it has the potential for adversely affecting the housing market and public services in a community, at least over a short period. NTS-related activities, even under Alternative 3 (Expanded Use Alternative), would not result in unusually large population increases (638 people or 0.06 percent of the Clark County 1996 population). Nonetheless, impacts on housing and local government revenue and expenditures are presented in the Public Finance segments of the Socioeconomic section.

Comment Code: State Government 2-34

Location of EIS Revision(s): None required

Response: The DOE believes that the NTS EIS does evaluate the potential for negative socioeconomic impacts from NTS-related growth. Population increases associated with NTS-related activities would be generated by jobs. If increased obligations do occur as a result of decisions made by the federal government,

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NTS employees would continue to contribute funds to the local budget in the form of fees, taxes, etc. Any gap between revenues and expenditures for public services would occur no matter which alternative is chosen by the DOE. For additional information, see response to Comment Code State Government 2-33.

Comment Code: State Government 2-35

Location of EIS Revision(s): None required

Response: See discussion in Section 1.9 in Volume 3.

Comment Code: State Government 2-36

Location of EIS Revision(s): None required

Response: See discussion in Section 1.9 in Volume 3.

Comment Code: State Government 2-37

Location of EIS Revision(s): None required

Response: See discussion in Section 1.9 in Volume 3.

Comment Code: State Government 2-38

Location of EIS Revision(s): None required

Response: Four cooperating agencies participated in the preparation of this EIS (Bureau of Land Management, U.S. Air Force, Nye County, and U.S. Fish and Wildlife Service). These agencies were contacted to provide information and data used to develop the environmental baseline for the sites examined in the document and they reviewed preliminary drafts of the NTS EIS. *Resource Management Plans* prepared by these agencies, particularly the Bureau of Land Management, for federal lands near the project sites were reviewed, and resource management policies of these agencies will be considered in developing the NTS *Resource Management Plan*. In addition, Nye County was a cooperating agency and provided information on socioeconomic conditions of use in the NTS EIS.

Comment Code: State Government 2-39

Location of EIS Revision(s): Volume 1, Section 1.1 and Section 2.2

Response: The NTS EIS contains the project-level National Environmental Policy Act analysis for the use of the Big Explosives Experimental Facility. The purpose and impacts of the Big Explosives Experimental Facility tests are discussed in detail in Appendix F, Section F.5.1, and impacts from expanded use of the Big Explosives Experimental Facility (Alternative 3) are discussed in detail in Section F.5.2. Environmental effects identified in Appendix F are also included in Chapter 5, Environmental Consequences. If substantially

different activities or levels of activities are proposed for the Big Explosives Experimental Facility in the future, appropriate National Environmental Policy Act reviews would be conducted. The DOE believes that the analysis of this facility in the NTS EIS is sufficient to allow informed decisions to be made concerning this facility. The relationship between Appendix F and the NTS EIS has been clarified in Chapters 1 and 2 of Volume 1.

Comment Code: State Government 2-40

Location of EIS Revision(s): None required

Response: Comment noted. The DOE believes that the analysis of this facility in the NTS EIS is sufficient to allow for decisions to be made concerning this facility. If substantially different activities or levels of activities are proposed for the Lyner Complex in the future, appropriate National Environmental Policy Act reviews would be conducted.

Comment Code: State Government 2-41

Location of EIS Revision(s): None required

Response: The focus of Volume 1, Appendix H, is the assessment of human health risks associated with activities proposed under the four EIS alternatives. The assessment of impacts to other environmental resources are addressed in other sections of the NTS EIS (e.g., biological resources, geology and soils, hydrology). The assessment of human health risks examines the two exposure pathways, air and groundwater, that have been demonstrated in previous studies to be the pathways of principal concern to human health risks.

Comment Code: State Government 2-42

Location of EIS Revision(s): None required

Response: Volume 1, Appendix H, and its supporting technical references, provide sufficient information to demonstrate that the findings and conclusions of the human health risk study were developed in a credible, scientific manner.

Comment Code: State Government 2-43

Location of EIS Revision(s): None required

Response: The DOE agrees that some evaluations of movement of contaminants within the environment require an ecosystem approach that can be achieved through the principles and guidelines identified in the *Resource Management Plan*. The DOE also agrees that this is relevant to the Environmental Restoration Program. However, the DOE believes that sufficient examples of the benefits of the ecosystem approach are provided in Chapter 3. Volume 2 is not meant to be a comprehensive list of all actions to be considered under this plan.

Comment Code: State Government 2-44

Location of EIS Revision(s): None required

Response: The transportation activities for radioactive and hazardous materials and waste are summarized in Chapter 5 for each of the alternatives. More detailed information on transportation activities are in Appendix I of the NTS EIS.

Comment Code: State Government 2-45

Location of EIS Revision(s): Volume 1, Chapters 5 and 6 and Appendix I

Response: A detailed analysis of the risks associated with the transportation of hazardous and radioactive materials to the NTS has been included in Appendix I, and summarized in Chapter 5. The expected shipments of the following types of material are described in Appendix I: low-level and mixed waste, special nuclear material, and hazardous materials. The impacts associated with the use of petroleum products are addressed in the baseline and environmental impact sections in Chapters 4 and 5. In addition, the assessment of cumulative impacts in Chapter 6 has been expanded to more fully examine the past, present, and foreseeable future impacts of transporting these materials.

Comment Code: State Government 2-46

Location of EIS Revision(s): Appendix I and Volume 1, Chapter 5

Response: Appendix I and Chapter 5 have been modified to address the potential impacts from the transportation of nuclear materials (including plutonium pits and nuclear weapons components), low-level and mixed wastes, and hazardous materials and waste. Transuranic wastes and Type B radioactive materials are not expected to be shipped to the NTS. The estimated volumes and the number of shipments for each waste type analyzed are given in Appendix I and Chapter 5.

Comment Code: State Government 2-47

Location of EIS Revision(s): None required

Response: The potential impacts of activities under each alternative are, including cumulative impacts of transportation, evaluated without regard to the NTS mission program (e.g., waste management, environmental restoration, defense). The transportation risks associated with each alternative are summarized in Chapter 5 and described in detail in Appendix I. Cumulative impacts of the alternatives examined, along with other activities in the region of influence, are described in Chapter 6. The additive impacts of the NTS mission programs are described in Chapter 5. Analysis of the potential health, safety, and transportation risks takes into account a wide range of information including (1) origin and destination of the shipment, (2) quantity of material or waste shipped, (3) radioactive "source term" of the material or waste, (4) shipping container and method of shipment, and (5) shipping route. The qualifications of carriers are defined by the applicable regulations of the U.S. Department of Transportation. Timing of shipments was considered to be the average annual number of shipments over the 10-year period.

Comment Code: State Government 2-48

Location of EIS Revision(s): Appendix I and Volume 1, Chapters 5 and 6

Response: Appendix I and Chapter 5 of the NTS EIS have been modified to include an analysis of risk associated with the transportation of all forms of waste and hazardous materials that may be shipped to the NTS under each alternative. The analysis now includes defense-related materials (e.g., plutonium pits) and other hazardous materials. Furthermore, the cumulative impacts of transportation have been enhanced in Chapter 6.

Comment Code: State Government 2-49

Location of EIS Revision(s): Appendix I and Volume 1, Chapter 5

Response: The comment is correct. The transportation risk calculations have been revised to include all radioactive and hazardous wastes and materials that could be shipped to the NTS over the next 10 years.

Comment Code: State Government 2-50

Location of EIS Revision(s): Appendix I, Volume 1, Chapter 5

Response: The Transportation Study was prepared in a manner that allows the interested reader to review the data that is part of the record for the study and for the NTS EIS. An analysis of the maximum credible transportation accident has been added to Appendix I and summarized in Chapter 5. The consequences of terrorist attacks are not specifically analyzed but the radiological consequences are not believed to be greater than the maximum release scenario presented.

Comment Code: State Government 2-51

Location of EIS Revision(s): None required

Response: The potential health and safety risks associated with the transportation of defense-related nuclear materials are documented in Appendix I and Chapter 5. In 1961, the Area 5 Radioactive Waste Management Site was established at the NTS for the disposal of low-level waste from both on-site and off-site generators. There is no historical evidence that perceptions associated with the transportation of low-level waste to the NTS has affected the economy of Nevada. The potential for negative perceptions that affect the economy of the state resulting from the transport of nuclear waste within Nevada is addressed in Section 1.9 of Volume 3.

Comment Code: State Government 2-52

Location of EIS Revision(s): None required

Response: The Department of Transportation regulations (49 CFR 397.101) require the carrier to select the route. These regulations also give the states the authority to designate routes for Class 7 Radioactive Materials. Refer to the discussion in Section 1.6 of Volume 3 for additional information.

Comment Code: State Government 2-53

Location of EIS Revision(s): None required

Response: The DOE concurs that the inclusion of routing preferences is not in violation of any U.S. Department of Transportation regulation dealing with radioactive or hazardous material shipments. It is not DOE policy to use contract carriers when no added benefit to the public is realized. See Section 1.6 of Volume 3.

Comment Code: State Government 2-54

Location of EIS Revision(s): None required

Response: It is not DOE's position to use contract carriers when common carriers that can meet the regulations are available. No benefit is derived from using a contract carrier instead of a common carrier in this case. Transportation routing decisions are made in compliance with the U.S. Department of Transportation regulations to which both common and contract carriers must comply. See Section 1.6 of Volume 3.

Comment Code: State Government 2-55

Location of EIS Revision(s): Abstract

Response: The Abstract has been modified to incorporate information on the relationship between the NTS EIS and the *Resource Management Plan*. The Abstract is meant to summarize the contents of the NTS EIS and does not address any elements beyond the scope of the NTS EIS. Therefore, the rationale for not including the Yucca Mountain Repository in the NTS EIS is not in the Abstract. However, this rationale is contained in the Summary and in Chapter 3 of the NTS EIS.

Comment Code: State Government 2-56

Location of EIS Revision(s): Summary

Response: The Summary has been modified to include a discussion of the relationship between the *Resource Management Plan* and the NTS EIS, as well as a discussion of the Yucca Mountain Project.

Comment Code: State Government 2-57

Location of EIS Revision(s): None required

Response: The DOE believes that the NTS EIS contains an adequate discussion of the Environmental Research Park. Section 2.4.4 identifies the Environmental Research Park, along with other Nondefense Research and Development Program projects. Section A.4.1.5 in Appendix A provides details of the program. The Environmental Research Park is next mentioned in Section 3.1.1.4, "Nondefense Research and Development Program under Alternative 1." Sections 3.1.3.4 and 3.1.4.4 refer the reader back to Section

3.1.1.4 when describing the Nondefense Research and Development Program under Alternatives 3 and 4. The impacts of Nondefense Research and Development Program activities are analyzed in Chapter 5. See also the response to Comment Code State Government 2-12.

Comment Code: State Government 2-58

Location of EIS Revision(s): Glossary

Response: The definition of "Protective levels" has been added to the Glossary. Protective levels are those levels which would meet acceptable human health and risk factors based on future land uses, as established through the Federal Facility Agreement and Consent Order (State of Nevada, 1996).

Comment Code: State Government 2-59

Location of EIS Revision(s): None required

Response: Section 2.4.2 acknowledges that classified waste is managed at the NTS. Referring to a low-level waste as "classified" denotes waste weapons components and assemblies designated by the U.S. Government pursuant to executive orders, statutes, or regulations that require protection against unauthorized information or material disclosure for reasons of national security. Additional security and safeguard activities are required in the handling of these materials. In all other characteristics, this waste is similar in radionuclide content and physical makeup to the other waste being accepted for disposal.

Classified transuranic waste treatment and disposal options have not yet been developed. At this time, the only disposal option for transuranic waste is the Waste Isolation Pilot Plant, which does not accept classified wastes.

The volume of the classified transuranic waste stored at the NTS Area 5 radioactive waste management site is approximately 54m³ and is stored in 295 drums. The radioisotopes that contaminate the waste are primarily Uranium-235, Plutonium-238, and Plutonium-239.

Comment Code: State Government 2-60

Location of EIS Revision(s): Summary and Volume 1, Section 4.1.5

Response: The sentence in question refers to wells, not surface water. For clarity, however, additional text has been added to the Summary and to the Hydrology section, briefly describing the information in Section 4.1.5.

While water drawn from Well UE-5n did have a tritium activity of 2.6×10^4 pCi/l as noted in the NTS Annual Site Environmental Report - 1994 (DOE/NV, 1995a); this well is not used as a water supply well. Increased tritium in this well is thought to be the result of a radionuclide migration experiment conducted near the well. The list of NTS water supply wells and their radioactivity averages in 1994 is on page 5-38, Table 5.13, of the 1994 NTS Annual Site Environmental Report.

Sampling wells at the Project Faultless site have shown tritium at background levels. As stated in the NTS Annual Site Environmental Report - 1994 (DOE/NV, 1995a), the results "...are consistent with results obtained in previous years, and indicate that migration of radioactivity from the test cavity has not occurred."

Comment Code: State Government 2-61

Location of EIS Revision(s): None required

Response: The Summary is simply a synopsis of information contained in the NTS EIS. Section 2.5, Volume 1, of the NTS EIS includes brief descriptions of other studies that were used to support the NTS EIS. Including information in the Summary on the risks described in these other studies would put the waste management subsection of the Summary out of balance with descriptions of the other programs. There are no references in the Summary to other sections of the NTS EIS. The Reader's Guide is intended to provide information on how to find information in the multi-volume EIS.

Comment Code: State Government 2-62

Location of EIS Revision(s): None required

Response: Alternative 2 was included in this EIS to satisfy the requirement of the National Environmental Policy Act to analyze a full range of alternatives. In Alternative 2, the DOE has analyzed and compared to the other alternatives the potential environmental effects of no restoration.

Comment Code: State Government 2-63

Location of EIS Revision(s): None required

Response: Since National Environmental Policy Act provisions are purely procedural and do not impose substantive requirements, cessation of restoration activities would not violate the National Environmental Policy Act. However, cessation of restoration activities would be inconsistent with the Resource Conservation and Recovery Act permit for the NTS and with signed agreements with the state of Nevada.

Comment Code: State Government 2-64

Location of EIS Revision(s): Summary

Response: As stated in Section 5.5.1.1 with regard to subcritical tests in the Lyner Complex, "Irreversible effects would include the deposition of radiological material within and near the cavity mined in the subsurface." The text in the Summary under Unavoidable Adverse Impacts has been revised to include this wording.

Comment Code: State Government 2-65

Location of EIS Revision(s): Volume 1, Introduction

Response: The Introduction to Volume 1 has been modified in the Final NTS EIS to include additional information about the Yucca Mountain Project and the relationship between the NTS EIS and the *Resource Management Plan*.

Appendix F explains the status of the Big Explosives Experimental Facility with regard to National Environmental Policy Act review.

Comment Code: State Government 2-66

Location of EIS Revision(s): None required

Response: The Public Land Orders withdrawing the NTS are discussed fully in Section 4.1.1.1 of Volume 1.

Comment Code: State Government 2-67

Location of EIS Revision(s): Volume 1, Chapter 1, Section 1.4

Response: The reference to Section 3.2.7.1 has been changed to Section 3.2.6.1.

Comment Code: State Government 2-68

Location of EIS Revision(s): None required

Response: This EIS is a type of programmatic EIS. It evaluates the impacts of potential actions, as well as ongoing and planned specific activities. Activities proposed after this Final EIS is published will receive a case-by-case evaluation and, if necessary, a National Environmental Policy Act document will be prepared.

The footprint and resource requirements for the heavy industrial facilities have been described in the impact analysis for Alternative 3. The NTS may at some time be considered for siting of a mixed-oxide fuel facility, which is one of the alternative technologies evaluated in the Storage and Disposition of Weapons-Usable Fissile Materials Programmatic EIS, and also for a commercial satellite launch-and-recovery facility (a Nondefense Research and Development Program). These possible activities are bounded by the general evaluation of the large, heavy-industrial facility identified in Alternative 3. Once these or other proposals become more defined, additional National Environmental Policy Act reviews will be conducted in the context of the programmatic heavy-industrial-facility analysis, and further refined as necessary.

Comment Code: State Government 2-69

Location of EIS Revision(s): None required

Response: The comment is correct. Both programmatic EISs address the storage of strategic reserves of plutonium. This allows the full coverage of the alternatives for managing these reserves of plutonium. The DOE has stated that no decision will be made until both EISs have been completed. The DOE's Stockpile Stewardship and Management Programmatic Environmental Impact Statement acknowledges that there is a potential overlap with the Storage and Disposal Programmatic EIS regarding storage of strategic reserves of plutonium. The Storage and Disposal Programmatic EIS considered strategic reserves of Special Nuclear Material. Because the storage of strategic reserves is covered in both Programmatic EISs, the decision for location of storage of strategic reserves will not be made until completion of both Programmatic EISs, in a Record of Decision that will jointly consider both proposals.

Comment Code: State Government 2-70

Location of EIS Revision(s): None required

Response: See response to Comment Code State Government 2-69. Consideration of the combined analyses in the two Programmatic EISs assure that all reasonable possible uses of the Device Assembly Facility are addressed.

Comment Code: State Government 2-71

Location of EIS Revision(s): Volume 1, Chapter 1, Section 1.4

Response: The NTS is also a candidate site for the disposition facilities that are described in Section 2.4 of the Storage and Disposition of Weapons-Usable Fissile Materials Programmatic EIS. The text in Section 1.4 of the NTS EIS has been revised accordingly.

Comment Code: State Government 2-72

Location of EIS Revision(s): None required

Response: Decisions concerning future uses of the NAFR Complex will be the subject of an EIS to be prepared by the U.S. Air Force. Scoping for that EIS has not begun and it is inappropriate for the DOE to speculate on the results of that EIS. Potential impacts to DOE operations from proposed and alternative actions by the U.S. Air Force should be examined in the Air Force's EIS. Access and control of Double Tracks and other environmental restoration sites on the NAFR Complex are not expected to change.

Comment Code: State Government 2-73

Location of EIS Revision(s): None required

Response: DOE Order 5820.2A, Chapter III, Paragraph 3,b, (1) requires that "Field organizations with disposal sites shall prepare and maintain a site-specific radiological performance assessment for the disposal of waste..." A performance assessment is not required to be completed before waste is disposed of. Further, there is no requirement in the Order that the waste acceptance criteria be based on a completed performance assessment. See also the response to Comment Code State Government 2-15.

Comment Code: State Government 2-74

Location of EIS Revision(s): None required

Response: Refer to the discussion in Section 1.4 of Volume 3.

Comment Code: State Government 2-75

Location of EIS Revision(s): None required

Response: See response to Comment Code State Government 2-3.

Comment Code: State Government 2-76

Location of EIS Revision(s): None required

Response: See response to Comment Code State Government 2-20.

Comment Code: State Government 2-77

Location of EIS Revision(s): None required

Response: See response to Comment Code State Government 2-20.

Comment Code: State Government 2-78

Location of EIS Revision(s): References, Volume 1, Section 4.8

Response: Pertinent data on biology and reclamation developed from the Yucca Mountain Project were used in the preparation of the NTS EIS (additional references have been added to Section 4.8, "References.")

Comment Code: State Government 2-79

Location of EIS Revision(s): None required

Response: Major studies listed in Figure 2-1 are described in detail in the various volumes of the NTS EIS. The biological-ecological studies and information about reclamation studies (including the Yucca Mountain Project) are in the box in Figure 2-1 labeled, "NTS Environmental Impact Statement." See also response to Comment Code State Government 2-78.

Comment Code: State Government 2-80

Location of EIS Revision(s): Volume 1, Chapter 2, Section 2.5.5

Response: Clarification of the scope of the performance evaluation (across the entire weapons complex) has been added to Section 2.5.5 as recommended. The introduction to the Performance Evaluation section has also been updated to include a reference which provides additional information on performance evaluations.

As discussed in Section 2.5.5, the performance evaluation process is being conducted by the DOE, in collaboration with states, to compare the potential technical capabilities of the DOE sites for mixed waste disposal. It is not being undertaken as a part of a National Environmental Policy Act evaluation, but as a mechanism to satisfy state disposal concerns related to the Federal Facilities Compliance Act. As noted in the comment and in Section 2.5.5, it does provide information that is relevant to the final disposition of low-level mixed waste. The results of the performance evaluations provide a scoping-level analysis to compare the strengths and weaknesses of 15 DOE sites for disposal of mixed waste using simple, conservative, and consistent analysis. This information will be factored into the DOE's decision-making process for both the NTS EIS and the Waste Management PEIS.

Comment Code: State Government 2-81

Location of EIS Revision(s): None required

Response: Based on the analysis in Chapter 5 of Volume 1, DOE believes that the referenced statements are correct, and that no credible groundwater pathway exists. Plans for the next revision of the Area 3 Performance Assessment are discussed in the response to Comment Code State Government 2-15. New conceptual models of the performance of the Area 3 Radioactive Waste Management Site will be based on the results of site characterization data collected up through Fiscal Year 1996. A groundwater pathway will be evaluated if site characterization data cannot demonstrate conclusively that transport to the uppermost aquifer is physically impossible within the compliance period.

The estimated performance assessment schedule is provided in Chapter 2, Section 2.5.6.1 and Appendix A, Section A.2, of this EIS. The estimated schedule for completion is not appropriate for inclusion into the Record of Decision.

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Comment Code: State Government 2-82

Location of EIS Revision(s): None required

Response: Initial characterization of the zone under the disposal craters in Area 3 suggest that there are no consistent differences between the properties in the rubble chimney and the undisturbed area. Characterization of the alluvium under the disposal units is continuing to take place. The final results of this analysis will provide information that can be used to determine detailed vertical flow parameters. Results of this analysis will be incorporated into the Area 3 performance assessment. See the response to Comment Code State Government 2-15 for more information on performance assessments.

Comment Code: State Government 2-83

Location of EIS Revision(s): None required

Response: See response to Comment Codes State Government 2-81, 2-82, and 2-15.

Comment Code: State Government 2-84

Location of EIS Revision(s): None required

Response: See response to Comment Codes State Government 2-15, 2-81, and 2-82.

Comment Code: State Government 2-85

Location of EIS Revision(s): Volume 1, Chapter 2; Volume 1, Appendix A

Response: Section 2.5.6.2 has been rewritten and refers generally to composite analyses to be performed to analyze the long-term impacts of disposal operations at the Areas 3 and 5 Radioactive Waste Management Sites. The performance assessment discussion of the transuranic waste in Trench T04C has been updated and moved from Volume 1, Section 2.5.6.2 to Volume 1, Section A.2. DOE has conducted a preliminary performance assessment, and believes that additional evaluation is required. Current plans call for an additional performance assessment review to determine whether the waste site can be closed with the waste left in place, or retrieved and subsequently disposed of in a system that meets the 40 CFR 191 performance objectives. The text in Section A.2 has been revised to reflect these plans.

Comment Code: State Government 2-86

Location of EIS Revision(s): Volume 1, Section 2.5.6.2; Volume 1, Section A.2

Response: The discussion of transuranic waste performance assessments has been moved to Appendix A. Section 2.5.6.2 has been rewritten and refers generally to composite analyses to be performed to analyze the long-term impacts of disposal operations at the NTS. In 1990, the DOE suspended use of the Greater Confinement Disposal boreholes in Area 5 pending a review of the regulatory requirements and available options under the Safe Drinking Water Act. In 1993, the Environmental Protection Agency published a

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clarification of the regulations contained in 40 CFR Part 191 (58 FR 66408) which concluded that the underground disposal of containerized radioactive waste in geologic repositories subject to Part 191 is not "underground injection," and thus, not prohibited under the Safe Drinking Water Act. The DOE is aware that the state of Nevada has not recognized the EPA's 1993 clarification.

The DOE has been conducting a performance assessment to evaluate whether the waste emplaced in the Greater Confinement Disposal boreholes is otherwise in compliance with the Part 191 regulations. As stated in the NTS EIS, Volume 1, Section A.2, "Greater Confinement Disposal Performance Assessment:" "Based on the second performance assessment, the Greater Confinement Disposal Unit is in compliance with the containment standard for limits on cumulative releases of radiation to the accessible environment." Therefore, it will not be necessary for the DOE to take further action to bring the Greater Confinement Disposal boreholes into compliance with applicable standards. Furthermore, there is no evidence to suggest that contamination resulting from the emplacement of transuranic waste in greater confinement disposal has occurred.

Comment Code: State Government 2-87

Location of EIS Revision(s): None required

Response: Refer to the discussion in Section 1.4 of Volume 3 and the response to Comment Code State Government 2-1.

Comment Code: State Government 2-88

Location of EIS Revision(s): None required

Response: Refer to the discussion in Section 1.4 of Volume 3 and see responses to Comment Codes State Government 2-1 and 2-2.

Comment Code: State Government 2-89

Location of EIS Revision(s): None required

Response: Funding for demilitarization demonstration projects was provided in the National Defense Authorization Act for Fiscal Year 1993 (NDAA, 1992), under the heading High Energetic Explosives Research Program.

Comment Code: State Government 2-90

Location of EIS Revision(s): None required

Response: If Congress completes an action related to "interim storage" and the NTS, that action and direction would be evaluated in terms of the National Environmental Policy Act and analysis and documentation would be prepared, as appropriate.

Comment Code: State Government 2-91

Location of EIS Revision(s): Volume 1, Section 1.4

Response: The comment concerning the continued use of Pahute Mesa by the DOE is noted. The DOE currently manages Pahute Mesa under a Memorandum of Understanding between the U.S. Air Force and the DOE signed June 10, 1982 (DoD, 1982). A statement has been added to Section 1.4 under "NAFR Complex EIS" that DOE operations on Pahute Mesa could be affected by decisions associated with the NAFR Complex EIS. See Section 1.5 of Volume 3.

Comment Code: State Government 2-92

Location of EIS Revision(s): None required

Response: Refer to the discussion in Section 1.4 of Volume 3 and see responses to Comment Codes State Government 2-1 and 2-2.

Comment Code: State Government 2-93

Location of EIS Revision(s): None required

Response: The *Resource Management Plans* developed by agencies such as the Bureau of Land Management and the U.S. Air Force, which are two major land owners that adjoin the NTS, recognize NTS activities. The new operations examined under the four alternatives would not be expected to significantly and adversely affect the management of these surrounding lands and would, therefore, be compatible with the management plans developed by these agencies. Moreover, the Bureau of Land Management, the U.S. Air Force, as well as the U.S. Fish and Wildlife Service (which administers land to the east of the NTS), were cooperating agencies in preparing the NTS EIS.

Comment Code: State Government 2-94

Location of EIS Revision(s): None required

Response: As decisions are reached based on the Final NTS EIS referenced in this comment (and discussed in Section 1.4, of Volume 1, of the NTS EIS), the need for additional National Environmental Policy Act documents would be reviewed. Questions such as conflicts with federal plans and policies would be evaluated.

Comment Code: State Government 2-95

Location of EIS Revision(s): None required

Response: Refer to the discussion in Section 1.4 of Volume 3.

Comment Code: State Government 2-96

Location of EIS Revision(s): Volume 1, Sections 2.4.2, 3.1.3.2, and A.2.1.2

Response: See Section 1.12 of Volume 3.

Comment Code: State Government 2-97

Location of EIS Revision(s): Volume 1, Sections 2.4.2, 3.1.3.2, and A.2.1.2

Response: Refer to Chapter 5, Volume 1 for a discussion of the analysis. See Section 1.12 of Volume 3.

Comment Code: State Government 2-98

Location of EIS Revision(s): Volume 1, Sections 2.4.2, 3.1.3.2, and A.2.3.2

Response: See Section 1.12 of Volume 3.

Comment Code: State Government 2-99

Location of EIS Revision(s): Volume 1, Section 2.5.6.1

Response: The DOE plans to complete composite analyses and performance assessments for the Areas 3 and 5 Radioactive Waste Management Sites. The Area 3 Draft Performance Assessment and composite analyses is scheduled for completion in March 1998. The Area 5 Composite Analyses is scheduled for completion in September 1999. Text has been added to the NTS EIS to reflect the fact that these will be performance assessments and composite analyses.

Comment Code: State Government 2-100

Location of EIS Revision(s): None required

Response: Refer to the discussion in Section 1.4 of Volume 3 and response to Comment Code State Government 2-1.

Comment Code: State Government 2-101

Location of EIS Revision(s): None required

Response: Refer to the response to Comment Code State Government 2-3.

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Comment Code: State Government 2-102

Location of EIS Revision(s): None required

Response: Refer to the response to Comment Code State Government 2-13.

Comment Code: State Government 2-103

Location of EIS Revision(s): None required

Response: Refer to the response to Comment Code State Government 2-2.

Comment Code: State Government 2-104

Location of EIS Revision(s): None required

Response: See response to Comment Code State Government 2-30.

Comment Code: State Government 2-105

Location of EIS Revision(s): None required

Response: As stated in the referenced Memorandum of Agreement between the DOE Nevada Operations Office (DOE/NV) and the Yucca Mountain Site Characterization Office, the intent of the agreement is to "obtain from DOE/NV certain support necessary for the operation of the Yucca Mountain Site Characterization Office and the performance of its mission; obtain for the Yucca Mountain Site Characterization Office the authority to conduct its programmatic activities on the NTS to the extent consistent with DOE regulations and policies; clarify responsibilities for Yucca Mountain Site Characterization Project programs and operations; and foster coordination and communication between the parties in order to avoid adverse impacts in the performance of their respective missions." The Memorandum of Agreement is identified in Volume 2, *Framework for Resource Management Plan*, Section 1.3, of the NTS EIS to ensure that land-use planning and resource management will be coordinated in accordance with the Memorandum of Agreement. The Memorandum of Agreement is not an inter-agency agreement; rather it is an internal DOE coordination agreement and not included in Appendix C, "Relevant Regulatory Requirements."

Comment Code: State Government 2-106

Location of EIS Revision(s): Volume 1, Section 3.2.6.1

Response: The comment is correct. The referenced language has been deleted. The entire section has been revised.

Comment Code: State Government 2-107

Location of EIS Revision(s): Volume 1, Section 3.2.6.1

Response: The comment is correct; the referenced language has been deleted. The entire section has been revised and states that Section 113 of the Nuclear Waste Policy Act, as amended, categorizes the current site-characterization activities at Yucca Mountain as "preliminary activities" and specifically excludes them from the requirement of preparing an Environmental Impact Statement. However, the NTS EIS includes these activities as part of the description of the existing environment at the NTS (see Chapter 4) as well as in the discussion of cumulative impacts (see Chapter 6).

Comment Code: State Government 2-108

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: The statement about the leaching of radionuclides from cavities has been removed from the text. The text has been modified to clarify the mobility of tritium and other radionuclide species in the groundwater. Additional information has been added to the text related to the inability to mobilize most cavity radionuclides during extensive pumping at the Cambic site, the limited number of instances in which non-tritium radionuclides have been found to migrate, and the relatively short migration distances detected.

Comment Code: State Government 2-109

Location of EIS Revision(s): Volume 1, Section 4.1.4.2

Response: The text has been modified to include a discussion of the uncertainties regarding the current knowledge of the radiological source term.

Comment Code: State Government 2-110

Location of EIS Revision(s): None required

Response: Results that verify the statement that vehicle-related consequences dominate the transportation risk can be found throughout the Draft NTS EIS. Under Alternative 3, vehicle-related fatalities are 8 (in 10 years) and injuries are 97, compared to radiation-induced cancer fatalities of less than one (0.06) in 10 years and radiation detriment of 4.5×10^{-2} . This shows clearly that vehicle-related, not cargo-related, consequences dominate the risks of transporting low-level waste and mixed waste.

Comment Code: State Government 2-111

Location of EIS Revision(s): Volume 1, Chapter 5 and Appendix I

Response: Analysis of the maximum, credible, transportation accident has been added to Appendix I and summarized in Chapter 5. The consequence of a terrorist attack would not be greater than the maximum reasonable foreseeable accident, which postulates a maximum release scenario.

Comment Code: State Government 2-112

Location of EIS Revision(s): None required

Response: Refer to the discussion in Section 1.6 of Volume 3. In addition, the state of Nevada can join in the route selection process by requesting participation from the U.S. Department of Transportation under the existing regulations.

Comment Code: State Government 2-113

Location of EIS Revision(s): Volume 1, Section 3.3 and Sections 5.1.1.4, 5.1.1.5.2, and 5.3.1.5.2

Response: The referenced statement in Section 3.3 (and elsewhere) has been deleted and replaced with an explanation in light of data recently obtained from ongoing borehole investigations at the UE3ax/bl disposal crater complex. These data provide additional support to the hypothesis that no credible groundwater pathway exists beneath UE3ax/bl (Van Cleave, 1996). However, were it to migrate, the source term from the waste in the craters would be a minor addition to the underground source term from the nuclear tests that created the craters. Additionally, the underground shot cavities beneath the subsidence craters and waste cells in the Area 3 RWMS are located in the unsaturated zone more than 101 m (330 ft) above the water table. This substantial separation between the shot cavities and the water table provides a further basis, albeit preliminary, to conclude that there is no vertical groundwater flow between the low-level waste unit and the water table. Given the proximity of Area 5 to Area 3 (22 km [14 mi]) and the very similar hydrologic conditions, the defensible hydrogeologic conceptual model for Area 5 is now being tested and validated for the Area 3 Radioactive Waste Management Site.

Comment Code: State Government 2-114

Location of EIS Revision(s): None required

Response: The traffic impacts identified in Table 3-5 are summarized in Chapter 5 of the NTS EIS. A description of the analytical method used to determine the traffic impacts is in Appendix E of Volume 1. The supporting information for transportation risks is in Appendix I.

Comment Code: State Government 2-115

Location of EIS Revision(s): Volume 1, Appendix I; Sections 5.1.1.2.3 and 5.3.1.2.3

Response: The Final NTS EIS includes a discussion of the probability and consequences of the maximum, reasonably foreseeable transportation accidents for both low-level and mixed waste shipments. The consequences of terrorist attacks are not specifically analyzed, but the radiological consequences of a terrorist attack would not be greater than the maximum reasonable foreseeable accident, which postulates a maximum release scenario.

Comment Code: State Government 2-116

Location of EIS Revision(s): Volume 1, Section 4.1

Response: The DOE concurs and the text has been modified to state that the NTS is surrounded by a combination of public lands that are open to public entry and federal installations that are closed to public entry.

Comment Code: State Government 2-117

Location of EIS Revision(s): None required

Response: Estimates of the total remaining activity are not yet available for each of the underground testing areas. The NTS EIS presents the estimated total remaining subsurface activity in Section 4.1.4.2. This total comprises the best available estimate of the total activity in the vadose zone, while the information presented in Table 4-27 presents the total activity for tests that were conducted under, or within, 100 meters of the water table. Work being performed under the Environmental Restoration Program will help to refine these estimates so that the total inventory in the vadose zone of Pahute Mesa, Yucca Flat, and Frenchman Flat can be estimated. Also refer to the discussion in Section 1.10 of Chapter 1 of Volume 3.

Comment Code: State Government 2-118

Location of EIS Revision(s): Volume 1, Section 1.4

Response: The comment concerning the continued use of Pahute Mesa by the DOE is noted. A statement has been added to Section 1.4 under *Nellis Air Force Range Complex EIS* that DOE operations on Pahute Mesa could be affected by decisions associated with the Nellis Range EIS.

Comment Code: State Government 2-119

Location of EIS Revision(s): None required

Response: The description in the Draft NTS EIS concerning the Bureau of Land Management's 1983 review of the Public Land Orders that withdrew the NTS land correctly and adequately reflects both the U.S. Bureau of Land Management's Federal Land Policy and Management Act withdrawal review and its current status.

Comment Code: State Government 2-120

Location of EIS Revision(s): None required

Response: This EIS is intended to provide a comprehensive, cumulative review of all current and proposed activities at the NTS. It supports the programmatic decisions on the various programs at the site, including the Defense Program Stockpile Stewardship and Counter Proliferation efforts and the Work for Others Program efforts. Chapter 2 and Chapter 3 describe the programmatic need to perform conventional high-explosives test and research and the development of advanced conventional weapons technologies.

Appendix F is intended to include project-specific analysis that in the context of the whole EIS completes the National Environmental Policy Act requirements for the Big Explosives Experimental Facility. Chapters 1, 2 and 3 of Volume 1 have been modified to clarify this point. See also the response to Comment Code State Government 2-39.

Comment Code: State Government 2-121

Location of EIS Revision(s): None required

Response: The Yucca Mountain land withdrawal consists of 4,255 acres withdrawn by Public Land Order 6802 on September 17, 1990 (PL Order 6802).

Comment Code: State Government 2-122

Location of EIS Revision(s): Volume 1, Section 4.1.1.3

Response: The reference has been changed from Section A.7 to A.6.

Comment Code: State Government 2-123

Location of EIS Revision(s): Volume 1, Section 4.1.1.3, Table 4-3

Response: Table 4-3 has been corrected.

Comment Code: State Government 2-124

Location of EIS Revision(s): None required

Response: Details describing the condition of the existing water supply and distribution systems are presented in Appendix A.

Under Alternative 3, Expanded Use, the existing water-distribution systems would be used whenever possible. Should upgrades to the water-distribution systems be necessary, the upgrades would occur, whenever practical, along the existing routes to minimize impacts to the environment.

Comment Code: State Government 2-125

Location of EIS Revision(s): Volume 1, Appendix A, Section A.6.1.1.1

Response: At the time Appendix A was written in the Draft NTS EIS, upgrades were not planned to be completed. The plans have changed and Appendix A has been modified to reflect the current status of system parameters.

Comment Code: State Government 2-126

Location of EIS Revision(s): None required

Response: The DOE presently manages Restricted Airspace 4808 and 4809. All flights are scheduled and controlled by the DoD. The decision to maintain or release Special Use Airspace is made by the Federal Aviation Administration, in coordination with the agencies that use the airspace, during its annual review process. Decisions to relinquish parts or all of Special Use Airspace at the NTS or the NAFR Complex would be determined through this process based on the nation's and other federal agency requirements. Presently, it is too speculative to analyze or entertain the relinquishment of these airspaces based on ongoing activities.

Comment Code: State Government 2-127

Location of EIS Revision(s): None required

Response: Refer to response in Comment Code State Government 2-126.

Comment Code: State Government 2-128

Location of EIS Revision(s): None required

Response: A general discussion of the formation of subsidence craters can be found in Section 4.1.4.2 of the NTS EIS. Figure 4-23 illustrates a pictorial sequence of subsidence crater formation. The particular events which created the craters used for low-level waste disposal were Paca (U3ax) 1962, Bobac (U3bl) 1962, Fisher (U3ah) 1961, and Ierboa (U3at) 1963. The depth of burial of the event was about 210 to 270 meters (700 to 900 feet). The event cavities are about 150 meters (500 feet) above the water table, which is about 485 meters (1,600 feet) below the land surface. See also the response to Comment Codes State Government 2-82 and 2-113.

Comment Code: State Government 2-129

Location of EIS Revision(s): None required

Response: Geologic and soil conditions at facilities such as the Area 3 waste disposal site are characterized as part of the permitting or compliance requirements, and typically include detailed descriptions of conditions over a limited area. Such detail is not needed for a sitewide EIS. As noted in the comment, other documentation is available which provides location-specific information. The statement concerning separate subsections for specific administrative units is correct. The Area 3 disposal site, however, is not an administrative unit. The NTS, Tonopah Test Range, and Nellis Air Force Range Complex are the administrative units, as stated in the first paragraph of Section 4.1.4.

Comment Code: State Government 2-130

Location of EIS Revision(s): Volume 1, Section 4.8

Response: Two references to Hawkins and Kunkle have been added to Section 4.8.

Comment Code: State Government 2-131

Location of EIS Revision(s): None required

Response: A copy of the referenced document has been sent to the state of Nevada.

Comment Code: State Government 2-132

Location of EIS Revision(s): None required

Response: The DOE evaluated in the NTS EIS the impact of possible additional wastes being disposed of in the proposed Mixed-Waste Disposal Unit. The DOE recognizes that additional activities must be completed prior to the Nevada Division of Environmental Protection considering the proposed Mixed-Waste Disposal Unit. The DOE here notes that the state of Nevada believes that completion of DOE's Waste Management Programmatic EIS and Record of Decision and the Area 5 Performance Assessment must precede action on the Resource Conservation and Recovery Act Part B permit for the proposed Mixed-Waste Disposal Unit.

Comment Code: State Government 2-133

Location of EIS Revision(s): None required

Response: The DOE prepared the Environmental Assessment to evaluate alternatives to meet requirements of new solid waste regulations. The Nevada Division of Environmental Protection implemented amendments to the solid waste regulations requiring the DOE to temporarily close and modify the Area 9 Landfill. The modifications have been completed and the landfill has reopened. The description on the rationale used in the Environmental Assessment is in Section 4.1.1.5, "Waste Management Program." A more detailed discussion of existing and potential impacts at the Area 9 Landfill is in the Environmental Assessment for Solid Waste Disposal (DOE, 1995a).

Comment Code: State Government 2-134

Location of EIS Revision(s): None required

Response: The text, as presented in Section 4.1.1.5 under Nonhazardous Solid Waste, states that although "...both landfills are currently classified as Class II landfills, changes in state regulatory requirements will cause the Area 9 Landfill to undergo partial closure and to reopen as a Class III construction and demolition landfill. The Area 23 Landfill will remain in operation as a Class II landfill, but will be modified to comply with new State regulation."

Comment Code: State Government 2-135

Location of EIS Revision(s): Volume 1, Section 4.1.1.5

Response: The text has been changed to indicate that the Area 9 Landfill is located in a subsidence crater (U-10C) formed as a result of a subsurface nuclear test.

The text states that the Area 9 Landfill will undergo partial closure. Any potential environmental impacts are addressed in the Environmental Assessment for Solid Waste Disposal (DOE, 1995a), as stated in the text.

Comment Code: State Government 2-136

Location of EIS Revision(s): None required

Response: The actions required by the Site Treatment Plan and the Consent Order are addressed in the NTS EIS in Appendix A, Section A.2.3.2, under the "Expanded Use Alternative" (Alternative 3). The proposed treatment system (Cotter Concentrate Treatment Unit) is presented under the "Expanded Use Alternative" because (1) the DOE and Nevada Division of Environmental Protection did not sign the Federal Facility Compliance Act Consent Order until after the Draft NTS EIS was distributed to the public for comment, and (2) the specific type of treatment or design of the proposed treatment system has not been finalized. The referenced Site Treatment Plan does not provide the specific treatment requirements for each waste stream but does provide treatment options for each waste stream. These options were included because of the lack of characterization data, treatability test results, and/or the potential availability of off-site treatment systems. The Site Treatment Plan and the Consent Order provide a process for determining the specific treatment option for each waste. The DOE recognizes that the examination of the impacts of a treatment system in the NTS EIS does not necessarily preclude a future environmental assessment for a specific activity or treatment unit.

Comment Code: State Government 2-137

Location of EIS Revision(s): Volume 1, Section 4.1.2.3

Response: The text has been corrected to indicate that the total amount of waste received between 1961 and 1982 was 14 million ft³.

Comment Code: State Government 2-138

Location of EIS Revision(s): None required

Response: The region of influence for specific impact analyses includes Clark and Nye counties. A summary of economic indicators in Section 4.1.3 includes the state of Nevada and the nation.

Comment Code: State Government 2-139

Location of EIS Revision(s): None required

Response: There is no information that documents a deterioration in tourism in Nevada as a consequence of past or present activities at the NTS. There is no reason to conclude that future activities, as evaluated in the NTS EIS, would adversely affect tourism or the state's economic system. See also discussion in Volume 3, Section 1.9.

Comment Code: State Government 2-140

Location of EIS Revision(s): None required

Response: As stated in the NTS EIS, the largest contributor to the economy of Nevada is the service industry (which includes tourism and the gaming industry). In Clark County, the service industry represents approximately 48 percent of the total economy and, in Nye County, approximately 64 percent. The NTS has been in operation since the 1950s and activities in the past, when nuclear testing was at its peak, have not adversely affected the growth of tourism and the gaming industry. In fact, the Las Vegas area has experienced remarkable growth over the past three decades. Tourism in southern Nevada has increased from 21 million visitors in 1990 to a forecasted 31 million in 1996 (Schwer, 1995). The increase in visitors is attributed to the creation of new mega-resorts and other large attractions. Based on available data, the effects of the NTS on the tourism industry are negligible.

As discussed in Section 4.1.3, total employment in Nevada increased from 256,000 jobs in 1970 to 488,000 in 1990. Although the unemployment rate increased from 4.9 percent to 5.5 percent in the same period, this is attributed to the in-migration rate exceeding the rate of employment opportunities (Schwer, 1995). With Alternative 1, no population increase can be ascribed to the NTS; therefore, there would be no impact on the tax-revenue system in Nevada.

Comment Code: State Government 2-141

Location of EIS Revision(s): Volume 1, Sections 4.1.3 and 5.1.1.3

Response: Text has been added to clarify the response capabilities of affected jurisdictions and the DOE. See Section 1.6 of Volume 3.

Comment Code: State Government 2-142

Location of EIS Revision(s): None required

Response: A detailed discussion of the geology of the various sites mentioned in the comment is not needed for this sitewide NTS EIS. The geologic and soil conditions at facilities of this nature are typically characterized as part of the permitting or compliance requirements and include detailed descriptions. Other, more detailed National Environmental Policy Act review may be accomplished for some of these developments, as appropriate.

Comment Code: State Government 2-143

Location of EIS Revision(s): None required

Response: A discussion of radiological sources in groundwater is presented in Section 4.1.5.2. Information concerning the estimated radionuclide inventory is presented in the geology and soils section (4.1.4).

Comment Code: State Government 2-144

Location of EIS Revision(s): None required

Response: The DOE believes the NTS EIS, and the reference cited that addresses releases (OTA, 1989), adequately describe the releases to the atmosphere from nuclear tests since the last EIS was issued in 1977.

Comment Code: State Government 2-145

Location of EIS Revision(s): None required

Response: During the Cold War Era, hundreds of individual structures were built on the NTS and many of these structures would not meet current seismic-zone standards. For certain types of facilities, a seismic risk evaluation may be required prior to issuing a permit or license to operate. Where such evaluations are required, the DOE has performed them or is in the process of performing them. A listing of all structures and their seismic rating is not required for this EIS, and doing so would add no value to the NTS EIS. In instances where such an evaluation or rating is necessary or required in support of a specific project, it would be presented in a separate National Environmental Policy Act document.

Comment Code: State Government 2-146

Location of EIS Revision(s): None required

Response: The NTS EIS covers a 10-year planning period. Volcanic activity is not a significant issue with respect to the proposed actions because the probability cannot be defined for such a short period for a specific area. Therefore, a complete discussion of the extensive literature that has been written on this subject is not warranted or appropriate.

For facilities with siting criteria that include evaluations of volcanic hazards, the DOE will evaluate the volcanic hazards on a case-by-case basis with the documentation prepared to meet the specific requirements of the permitting or licensing authority.

Comment Code: State Government 2-147

Location of EIS Revision(s): None required

Response: The NTS EIS presents a brief overview of volcanism at a level commensurate with its significance with respect to the alternatives examined. A presentation of the current state of knowledge about volcanic hazard, and the assessment of future risk is not needed. See also response to Comment Code State Government 2-146.

Comment Code: State Government 2-148

Location of EIS Revision(s): None required

Response: A map of geotechnical hazards is not available for the NTS. Geotechnical investigations of slope and soil stability are performed on a case-by-case basis depending upon the type of facility or action to be taken, and the specific location.

Comment Code: State Government 2-149

Location of EIS Revision(s): None required

Response: The DOE believes that the amount and detail of information presented in the NTS EIS on mineral resources is adequate.

Comment Code: State Government 2-150

Location of EIS Revision(s): Volume 1, Section 4.8

Response: The cited reference has been added to Section 4.8. The statements in question are not at odds in that binary geothermal power has not been proven to be commercially viable. There are no anticipated uses of geothermal resources for other commercial or industrial applications at the NTS, thus a discussion of such applications is not warranted.

Comment Code: State Government 2-151

Location of EIS Revision(s): Volume 1, Section 4.1.4.3

Response: The text has been modified to better describe the areas of local interest. The following text was inserted:

"Areas of local interest include specific facilities, such as some large structures and waste disposal sites. In these cases, soil investigations are primarily limited to the characterization of specific geotechnical parameters. In some instances, the results of these investigations are published in formal documents, (e.g., Ho et al., 1986, discusses the suitability of natural soils for foundations for surface facilities at Yucca Mountain). Often,

information from these investigations has not been published and appears in various permit applications and the DOE files."

Comment Code: State Government 2-152

Location of EIS Revision(s): None required

Response: The baseline conditions for soils have indeed been updated from the very limited information presented in the 1977 EIS. The discussion presented in Section 4.1.4.3 is also applicable to the NAFR Complex. Discussions of general soil conditions on the Tonopah Test Range are in Section 4.2.4.3. Information on soil contamination at all three sites is in Section 4.1.4.3.

Comment Code: State Government 2-153

Location of EIS Revision(s): None required

Response: A breakdown of remaining soil contamination by geographic area is available in the cited references, particularly McArthur (1991), who lists major radionuclide activities in soils for each area of the NTS. Information from this report and other sources will be used by the DOE to make both short-term and long-term resource management decisions within the *Resource Management Plan*. The DOE does not plan to limit its ecosystem management to information presented in the NTS EIS. Rather, all pertinent information will be considered.

Comment Code: State Government 2-154

Location of EIS Revision(s): None required

Response: The DOE believes the requested information is already contained in the NTS EIS. Table S-2, "Summary of Remaining Radioactivity on the NTS," has a column heading "Source of Radioactivity," which includes an entry for safety tests. This entry, under the heading "Remaining Inventory (curies)," shows "approximately 35." Section 4.1.4.3 of the NTS EIS, "Soils," contains a discussion on safety tests and a listing of where the tests were conducted. Figure 4-29 shows the locations of safety tests on the NTS and the NAFR Complex and the approximate areas of plutonium contamination exceeding 10pCi/g. Figure 4-30 indicates the approximate areas on the NTS where plutonium concentration is in excess of 10pCi/g. Figures 4-31 through 4-37 provide additional details about the plutonium contamination plumes.

Comment Code: State Government 2-155

Location of EIS Revision(s): None required

Response: The regulations cited in the NTS EIS (Table 4-16) relate to the construction of specific facilities on the NTS and the NAFR Complex, and do not relate to the NTS as a whole. Site-specific floodplain analyses are prepared, as required, for individual facilities prior to construction.

Comment Code: State Government 2-156

Location of EIS Revision(s): None required

Response: Site-specific floodplain analyses will be prepared, as required, for individual facilities prior to construction.

Comment Code: State Government 2-157

Location of EIS Revision(s): None required

Response: The discussion for the NAFR Complex is limited to the areas where environmental restoration activities will be conducted; there are no springs in these areas. For the Tonopah Test Range, the springs are discussed in the section describing the hydrology of that facility. The only significant impoundment is Crystal Reservoir, which is discussed in the NTS EIS. A table listing all springs and impoundments in the region is not needed.

Comment Code: State Government 2-158

Location of EIS Revision(s): None required

Response: Any actions that could impact spring discharge and associated vegetation would have to be in compliance with federal and state environmental laws and regulations.

Comment Code: State Government 2-159

Location of EIS Revision(s): None required

Response: For any actions that are not determined to be part of the DOE mission, the DOE will comply with the provisions of the Nevada Water Law.

Comment Code: State Government 2-160

Location of EIS Revision(s): None required

Response: The data presented in Table 4-18 in the Draft NTS EIS are the most current and include all springs in the region for which data are available.

Comment Number: State Government 2-161

Location of EIS Revision(s): None required

Response: There are no other sources of surface water on the NAFR Complex or the Tonopah Test Range that could be affected by DOE/NV alternatives. Thus, only the relevant radiological or chemical data for surface water is provided in Table 4-18.

Comment Code: State Government 2-162

Location of EIS Revision(s): None required

Response: The sites specified in Table 4-22 in the NTS EIS have been included in the list of corrective action units scheduled for characterization and closure as indicated in Appendix II of the Federal Facility Agreement and Consent Order (State of Nevada, 1996). Appendix II contains a list of all corrective action units which have been identified to date and which have not yet been transferred to subsequent appendices or corrective action sites which have not yet been grouped into corrective action units. By the time that the corrective action units have been fully characterized, the corrective action decision document will discuss the appropriate remedial alternatives for each corrective action unit. Appropriate National Environmental Policy Act documentation, which may detail alternatives for cleanup, will be developed prior to the corrective action.

Comment Code: State Government 2-163

Location of EIS Revision(s): Volume 1, Section 4.1.5

Response: A figure has been added to the NTS EIS that shows the groundwater flow regime for the NTS (Figure 4-41a).

Comment Code: State Government 2-164

Location of EIS Revision(s): None required

Response: The areas of interest within the NAFR Complex are already included in Table 4-23. A figure of the groundwater regime has been added to the NTS EIS. A table showing water-well production rates is provided in the water supply section of the NTS EIS (Table 4-29). Water level variations are discussed in the NTS EIS.

Comment Code: State Government 2-165

Location of EIS Revision(s): Volume 1, Section 4.1.5

Response: Additional information on groundwater pumping has been added to the NTS EIS.

Comment Code: State Government 2-166

Location of EIS Revision(s): Volume 1, Section 4.8

Response: The reference to Seaber et al., 1995, has been deleted from the NTS EIS. The reference to Clary et al., 1995, has been added to Section 4.8.

Comment Code: State Government 2-167

Location of EIS Revision(s): None required

Response: No groundwater conduits have been identified in the groundwater system at the NTS. Rather, the results of well tests to date indicate that porous flow is the predominant mechanism for groundwater flow. The results of capture-zone analyses, performed as part of the DOE's Wellhead Protection Program, did not reveal any connections with testing areas that would impact downgradient areas of concern. The DOE will be developing detailed groundwater flow models of the underground testing areas to provide better definition of the flow regime in the vicinity of the testing areas.

Comment Code: State Government 2-168

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: The reference to Lacznia et al., 1992, has been deleted and the following text has been inserted:

"More recently, additional conceptual models of the system have been published by PAL Consultants, 1995, Faunt, 1994, and D'Agnese, 1994."

Comment Code: State Government 2-169

Location of EIS Revision(s): Volume 1, Section 4.1.5

Response: A figure showing the groundwater regime of the Death Valley flow-system has been added to the NTS EIS (Figure 4-41a). This map includes pertinent parts of the NAFR Complex.

Comment Code: State Government 2-170

Location of EIS Revision(s): None required

Response: Refer to Comment Code State Government 2-163.

Comment Code: State Government 2-171

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: As recommended, a link between the discussion of springs in Section 4.1.5.2 and the tables in the surface hydrology section has been made. The discharge rates of the springs are presented in the text of the NTS EIS. The following text was added to the NTS EIS:

"The chemistry of these springs is summarized in Tables 4-18, 4-19, and 4-21 in the Surface Hydrology section."

Comment Code: State Government 2-172

Location of EIS Revision(s): None required

Response: Refer to Comment Code State Government 2-161.

Comment Code: State Government 2-173

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: The DOE concurs that literature or report citations should be included to support this statement. The statement will be rewritten to reflect the results of the literature search.

Comment Code: State Government 2-174

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: The information contained in Section 4.1.5.2 has been revised to better describe the groundwater contamination on the NTS. As part of the Environmental Restoration Program, the DOE is evaluating the location, extent, and types of contamination. Because the areas of contaminated groundwater have not yet been fully characterized, it is not possible to compare concentrations with EPA standards. Plate 2 in Volume 2 of the NTS EIS provides an indication of where groundwater contamination is likely to be present.

Comment Code: State Government 2-175

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: Section 4.1.5.2 has been revised to explain further the total remaining hydrologic source term inventory of 112 million Ci.

Comment Code: State Government 2-176

Location of EIS Revisions: Volume 1, Section 4.1.5.2

Response: Additional text has been added to the NTS EIS to present more of the details of these two programs.

Comment Code: State Government 2-177

Location of EIS Revision(s): None required

Response: Studies under the Environmental Restoration Underground Test Area project include both field and data analysis tasks.

From 1992 to 1994, 13 new wells were completed and 10 existing wells refurbished on and near the NTS. Objectives for the wells were to gather geologic, hydrologic, and water-chemistry data in locations removed from the testing areas. The 13 wells were drilled in locations away from testing areas. In 1995 and 1996, five wells were drilled near expended nuclear tests to examine effects of testing on hydrology and water chemistry. Results from the 1995 and 1996 effort are preliminary and were not included in this EIS.

Data analysis under the Underground Testing Areas subproject primarily supports modeling efforts. Models have been used to simulate groundwater flow, particle pathlines, and tritium concentrations. A one-dimensional, contaminant-transport model, MC-TRANS (GeoTrans, Inc., 1995a), was used to predict tritium concentrations along the pathlines and at potential ecological receptor locations. A three-dimensional groundwater flow model, MODFLOW (McDonald and Harbaugh, 1988), was first used to simulate groundwater flow and the hydraulic head distribution. A particle-tracking code, MODPATH (Pollock, 1994), was used to define the specific pathlines of particles originating from the nuclear test cavities. At the time of this writing, modeling results are being peer-reviewed.

Uncertainty in the parameters and mechanisms of radionuclide transport was examined during flow-and-transport modeling. Changes in groundwater flow paths as a result of flow parameter variations were examined as part of the flow-model-sensitivity analyses. The effects of flow-and-transport parameter uncertainty on the predicted tritium activity were included in the modeling via a Monte Carlo sampling method. Sensitivity of the tritium predictions to transport parameters were calculated to assess the importance of different transport mechanisms. These results are currently undergoing peer review and should be available near the end of Fiscal Year 1996.

Comment Code: State Government 2-178

Location of EIS Revision(s): None required

Response: Past activities at these sites were aboveground safety tests. There were no deep underground tests. Therefore, it is not expected that source term radionuclides would have been introduced into the groundwater from DOE activities at the Tonopah Test Range and the NAFR Complex.

Comment Code: State Government 2-179

Location of EIS Revision(s): None required

Response: A discussion of water availability on the Tonopah Test Range is provided in Section 4.2.5.2 of the NTS EIS.

Comment Code: State Government 2-180

Location of EIS Revision(s): None required

Response: The current primary mission of the NTS and the Tonopah Test Range is to help ensure the safety and reliability of the nation's nuclear stockpile. Other missions include the support of DOE waste management activities and other national-security-related research, development, and testing programs. The NTS and the Tonopah Test Range missions are defined by statute, Presidential direction, and Congressional authorization and appropriation. The DOE anticipates no activities beyond its current missions. The DOE does not presume to manage the NAFR Complex or define its missions.

Comment Code: State Government 2-181

Location of EIS Revision(s): None required

Response: The DOE does not propose or contemplate the use of groundwater from the Ash Meadows Basin.

Comment Code: State Government 2-182

Location of EIS Revision(s): None required

Response: Table 4-28 lists materials used in underground nuclear testing. However, the fate of many of these materials as a result of underground testing is not fully understood, and no estimates are available concerning the total quantity or form of these materials that may still remain in the subsurface at the NTS.

The main concern regarding hazardous or toxic materials that may remain in the subsurface is their mobility (i.e. ability to travel into and within groundwater). The Environmental Restoration Program, through the Underground Test Area Subproject at the NTS, is in the process of assessing the occurrence, distribution, and mobility of contaminants in the vicinity of the expended nuclear tests. Once the data from the Underground Test Area Subproject have reduced the level of uncertainty in the groundwater model to an acceptable level, then the impact of any of these remaining materials that may be mobilized along the groundwater pathway can be assessed.

Comment Code: State Government 2-183

Location of EIS Revision(s): None required

Response: If it is determined that a particular action is outside the DOE mission, then the DOE will comply with the provisions of the Nevada Water Law.

Comment Code: State Government 2-184

Location of EIS Revision(s): None required

Response: The integrated database analysis, as requested, has not been performed. The sampling results are generally static. The absence of notable departures from prior results is not typically reported. Notable trends are investigated and reported in the Annual Site Environmental Report which is available to the state of Nevada in the public reading room.

Comment Code: State Government 2-185

Location of EIS Revision(s): Volume 1, Section 4.1.6

Response: The suggested reference was added to the NTS EIS. The significance of the Mojave Desert and Great Basin Desert vegetation associations, and their transitional ecotone, are described in Section 4.1.6.

Comment Code: State Government 2-186

Location of EIS Revision(s): Volume 1, Introduction

Response: Information about the *Framework for Resource Management Plan*, and its relationship to the NTS EIS, has been included in the Introduction (Chapter 1). See Section 1.7 in Volume 3.

Comment Code: State Government 2-187

Location of EIS Revision(s): None required

Response: Those sites recorded as a result of DOE activities, including the Yucca Mountain Project, are considered in subsequent parts of Section 4.1.10.

Comment Code: State Government 2-188

Location of EIS Revision(s): None required

Response: The internal boundaries of the NTS shown on Figure 4-47 in the Draft NTS EIS correspond to NTS-designated "areas." Figures 3-1 through 3-4 of the Draft NTS EIS show the numbers designating individual areas within the NTS. Many of these areas are discussed throughout the NTS EIS.

Comment Code: State Government 2-189

Location of EIS Revision(s): None required

Response: As requested, the "Contaminated Areas Report" will be provided to the state of Nevada. The report contains detailed information requested by the commentor. Planned remediation actions for individual sites either have been or will be provided to the state of Nevada for concurrence. As required in the Federal Facility Agreement and Consent Order, recently signed by the DOE and the state of Nevada, remediation actions for these sites will be jointly prioritized, developed, and approved.

Comment Code: State Government 2-190

Location of EIS Revision(s): Volume 1, Section 4.1.11

Response: The requested citations have been provided. The ecological studies conducted as part of the Yucca Mountain Project were not acknowledged because the information was not gathered to monitor changes in the flora and fauna on the NTS associated with past activities described in the NTS EIS.

Comment Code: State Government 2-191

Location of EIS Revision(s): Volume 1, Section 4.1.11

Response: The Final NTS EIS has been revised in Section 4.1.11 to include the following text:

"Prior to 1972, monitoring was performed by the U.S. Public Health Service. The objectives of the Off-Site Environmental Surveillance Program are to ensure nearby residents of the safety of the air and water; to provide a long-term environmental baseline; and to detect contamination from DOE activities, if present."

Comment Code: State Government 2-192

Location of EIS Revision(s): Volume 1, Section 4.8

Response: The Final EIS for the Tonopah Test Range Area 10, dated February 1988 (not 1990 as stated in the comment), has been included as a reference.

Comment Code: State Government 2-193

Location of EIS Revision(s): Volume 1, Section 4.2.4.3, and Section 4.1.4.3

Response: Section 4.2.4.3, "Soils," has been revised to include information from the 1977 soils inventory (Cox et al., 1977) conducted by the U.S. Department of Interior. Section 4.1.4.3, "Soils, RADIOLOGICAL SOURCES IN SOIL, Safety Tests," was also modified.

A bibliography was compiled for the Soils Media Corrective Action Unit. Inclusion of a summary of the content of the citations would be distracting to the reader and only add to the length of the document. However, a copy of the bibliography will be provided to the state of Nevada.

Comment Code: State Government 2-194

Location of EIS Revision(s): Volume 1, Section 4.2.6

Response: A paragraph which describes plutonium in the Tonopah Test Range ecosystem and provides specific literature references has been added to the section as recommended. The reference on line 18 for Section 2.0 of Appendix E, "Biological Resources," directs the reader to the appropriate section titled "Biological Resources" within the Appendix E section titled "Methods and Assumptions."

Comment Code: State Government 2-195

Location of EIS Revision(s): Volume 1, Section 4.3.1.2

Response: The description of land use and control of the Project Shoal Area site has been modified.

Comment Code: State Government 2-196

Location of EIS Revision(s): Volume 1, Section 4.3.1.2

Response: The Navy has applied for a withdrawal of a large area which surrounds and overlaps the DOE's Project Shoal Area. If the Navy's withdrawal is granted, it would overlap the DOE's withdrawal and would probably result in public access restrictions. The DOE's plans are to characterize and conduct any necessary remediation such that the surface would provide unrestricted use. The DOE would still maintain the deep subsurface withdrawal and would continue to monitor the subsurface for the long term. The deep groundwater issues have yet to be studied; no determination of potential risk to the public has yet been made. Section 4.3.1.2, "Land Use," was modified to reflect this information.

Comment Code: State Government 2-197

Location of EIS Revision(s): Volume 1, Figure 4-55

Response: B-18 has been changed to B-19 on Figure 4-55.

Comment Code: State Government 2-198

Location of EIS Revision(s): None required

Response: As part of the Environmental Restoration Program, site characterization will be performed to identify and define the extent of contamination. Sensitive resources would also be identified during this process. The results of site characterization, in conjunction with the appropriate National Environmental Policy Act review, will be used to select and implement any required remediation activity.

Comment Code: State Government 2-199

Location of EIS Revision(s): None required

Response: See response to Comment Code State Government 2-198.

Comment Code: State Government 2-200

Location of EIS Revision(s): None required

Response: The initial land withdrawal which created the NTS specifically acknowledged the primary purpose of the NTS as a weapons testing site. The various secondary activities pursued by the DOE and its predecessor agencies at the NTS have been compatible with the primary purpose for which the land was withdrawn. Also refer to the discussion in Section 1.4 of Volume 3 and response to Comment Code State Government 2-2.

Comment Code: State Government 2-201

Location of EIS Revision(s): None required

Response: Refer to Comment Code State Government 2-33.

Comment Code: State Government 2-202

Location of EIS Revision(s): None required

Response: Refer to the discussion in Section 1.9 of Volume 3.

Comment Code: State Government 2-203

Location of EIS Revision(s): None required

Response: The public finance section of the socioeconomics analysis discusses fiscal impacts to potentially affected local jurisdictions brought on by changes in NTS-related population, employment, and income. Each line item in the income statements (including taxes) was projected. NTS-related fiscal impacts are expected to be minimal. If increased obligations do occur as a result of decisions made by the federal government, NTS employees would continue to contribute funds to the local budget. Any gap between revenues and expenditures would occur no matter which alternative is chosen by the DOE. For additional information, refer to Comment Code State Government 2-140.

Comment Code: State Government 2-204

Location of EIS Revision(s): None required

Response: The labor-force number for Alternative 1 is based on Fiscal Year 1995 employment and was obtained from Raytheon Services Nevada, the Maintenance and Operations contractor at the NTS at the time of the preparation of the Draft NTS EIS. Because employment at the NTS is dynamic, this cut-off date was chosen to represent employment for Alternative 1. The employment history of the NTS, including recent reductions in employment is in Section 4.1.3 of the NTS EIS. The NTS EIS does investigate a range of employment estimates, each of which could be used for planning purposes. These estimates range from 86 personnel for Alternative 2 to 6,718 personnel in Alternative 3 (peak year). This analysis therefore contains a full range of employment scenarios, from site-maintenance to expanded use of the site.

Comment Code: State Government 2-205

Location of EIS Revision(s): None required

Response: The comment is correct in stating that the "...size or yield of underground nuclear explosions is controlled by the Threshold Test Ban Treaty to a maximum high-explosive equivalent of 150 kt."

The rationale for reserving Pahute Mesa for future nuclear testing, if the DOE is directed to do so, is mandated by Declaration I of the Threshold Test Ban Treaty of September 25, 1990 (Nixon and Brezhnev, 1974). Mandate I directs the DOE to maintain the "...basic capability to resume nuclear test activities prohibited by treaties should the United States cease to be bound to adhere to such treaties." Therefore, Pahute Mesa has to be reserved for the unlikely need to implement the above-stated mandate to conduct high-yield nuclear tests.

Furthermore, Pahute Mesa allows for resource, schedule, and management controls of NTS activities if the DOE were ever directed to conduct nuclear tests. While it is true that the Pahute Mesa is U.S. Air Force-withdrawn land and is subject to renewal, any problems with the renewed withdrawal of Pahute Mesa will be dealt with as a separate issue, if necessary.

Comment Code: State Government 2-206

Location of EIS Revision(s): None required

Response: The basis for the statement that the overall impacts to soils are not considered significant is contained in the discussion that follows the statement referred to in the comment. For example, soil erosion will not increase appreciably and soil contamination will be cleaned up in accordance with environmental regulatory requirements.

Comment Code: State Government 2-207

Location of EIS Revision(s): None required

Response: The text in Section 4.1.1.5 under "Disposal Operations" provides a description of the criteria used in selecting subsidence craters for the disposal of waste. The text also provides a reference to Hawkins and Kunkle.

Comment Code: State Government 2-208

Location of EIS Revision(s): None required

Response: While the gross area subject to potential disturbance has been conservatively estimated and is presented in Appendix A of the NTS EIS, the areal extent and nature of the soil that would be lost for the long term have not yet been fully defined. Characterization of impacted sites and assessments of potential remedial technologies is ongoing at some sites, but not yet started at others. The extent of lost soil may be changed when characterization is complete, remedial technologies are chosen, and clean-up standards have been agreed to by the DOE and the state of Nevada through the Federal Facility Agreement and Consent Order process. Section 4.1.4.3 of this EIS discusses soils in detail. Data and information from the Yucca Mountain Project are routinely shared with the Environmental Restoration Program; this information is used, as applicable, to help guide decisionmaking and planning.

Comment Code: State Government 2-209

Location of EIS Revision(s): None required

Response: See response to Comment Code State Government 2-156. The disposal units at the Area 3 and Area 5 Radioactive Waste Management Sites are located outside of all Federal Emergency Management Agency regulatory 100-year flood hazard zones. This information can be reviewed in the following reports available from the DOE: *Flood Assessment at the Area 5 Radioactive Waste Management Site* and the *Proposed Hazardous Waste Storage Unit, DOE/Nevada Test Site, Nye County, Nevada*, (Schmeltzer et al., 1993), and the Draft Flood Assessment for the Area 3 Radioactive Waste Management Site.

Comment Code: State Government 2-210

Location of EIS Revision(s): Volume 1, Sections 4.1.4 and 5.1.1.5

Response: Additional information concerning the existing nuclear test holes has been added to the NTS EIS. It is the policy of the DOE to protect groundwater quality consistent with its mission for the NTS.

Comment Code: State Government 2-211

Location of EIS Revision(s): Volume 1, Section 2.2, Chapter 4, Section 4.1.1.2, Appendix A, Section A.1.1.1 and Section A.1.1.2

Response: Changes to the text have been made to identify the 33 emplacement holes that have been identified as potential sites for experiments or exercises. A map of the NTS has been included in Appendix A showing the location of these holes.

Comment Code: State Government 2-212

Location of EIS Revision(s): Volume 1, Section 5.1.1.5.2

Response: This text has been modified to remove any perceived implication that the conclusion drawn concerning the movement of surface water to the groundwater at the Area 5 Radioactive Waste Management Site is also applicable to the Area 3 Radioactive Waste Management Site.

Comment Code: State Government 2-213

Location of EIS Revision(s): Volume 1, Section 7.6

Response: The DOE disagrees that this section reflects an inadequacy of data needed to conduct the level of analysis required for this EIS. The NTS has one of the most extensively studied environments in Nevada. The DOE does agree that the *Resource Management Plan*, as outlined in Volume 2, will be a valuable tool for minimizing impacts of proposed activities on the environment and has included that Plan as a proposed mitigation measure in Section 7.6 of the Final NTS EIS. The text of Section 7.6 has been modified to clarify the value of the *Resource Management Plan*.

Comment Code: State Government 2-214

Location of EIS Revision(s): None required

Response: Until the DOE completes the final revision to DOE Order 5820.2A, it is inappropriate to speculate what changes may occur. Upon finalization of the revision to DOE Order 5820.2A, the DOE will modify the performance assessment process accordingly.

Comment Code: State Government 2-215

Location of EIS Revision(s): Volume 1, Section 5.1.2.1

Response: The comment concerning the Public Law 99-606 is noted. The last two sentences of the cited section have been deleted. As stated in Section 4.2.1.1, the DOE manages the Tonopah Test Range through a Memorandum of Understanding with the U.S. Air Force for which the Tonopah Test Range has been withdrawn under Public Law 99-606. DOE comments concerning relinquishment of U.S. Air Force withdrawn lands are not appropriate for this EIS. See Section 1.5 of Volume 3.

Comment Code: State Government 2-216

Location of EIS Revision(s): None required

Response: The reuse of the NTS facilities for non-federal uses is not discussed in the alternatives, therefore, employment opportunities were not analyzed. Based on current trends in job creation and in-migration, the NTS would not influence the economy significantly under any alternative, and the analysis supports this conclusion.

Comment Code: State Government 2-217

Location of EIS Revision(s): None required

Response: Given that no soil-disturbing activities would occur under Alternative 2, there would be no significant adverse impacts to uncontaminated soil resources. However, any contaminated soils that are not remediated would be irretrievably lost as a soil resource.

Comment Code: State Government 2-218

Location of EIS Revision(s): Volume 1, Section 5.2.1.6 and Section 4.1.6

Response: The first sentence in Section 5.2.1.6 concerning impacts to biological resources has been deleted. Text has been added to Section 4.1.6 of the Final NTS EIS to substantiate the statement that some species, horses in particular, would be affected by the shutdown of manmade water sources. Other than for horses, no data exist that documents the use of manmade water sources by wildlife. However, the DOE/NV initiated a monitoring program in 1995 to assess the use of both natural and manmade water sources on the NTS by wildlife. The water sources will also be mapped as data is collected.

Comment Code: State Government 2-219

Location of EIS Revision(s): Volume 1, Section 5.1.1.2.3 and Section 5.3.3.2.3

Response: The Draft NTS EIS contained information about shipments and the differences between the transportation activities for Alternatives 1 and 3. The Final NTS EIS contains information in a more explicit

manner that identifies the number of shipments for each alternative. This information is in tables in Chapter 5 and Appendix A, and in the text of Chapter 5 of Volume 1 in Sections 5.1.1.2.3 and 5.3.1.2.3.

Comment Code: State Government 2-220

Location of EIS Revision(s): None required

Response: Baseline socioeconomic conditions are described in Chapter 4. See also the response to Comment Code State Government 2-33.

Comment Code: State Government 2-221

Location of EIS Revision(s): None required

Response: Refer to the discussion in Section 1.9 of Volume 3.

Comment Code: State Government 2-222

Location of EIS Revision(s): Volume 1, Sections 4.1.3 and 5.1.1.3

Response: Text has been added to clarify the response capabilities of affected jurisdictions and the DOE.

Comment Code: State Government 2-223

Location of EIS Revision(s): None required

Response: The multiplier effect is based on disposable income as well as possible expenditures for supplies and materials. When requirements of construction supplies and employment increase, the multiplier increases as well. Conversely, as construction is completed on various programs, local expenditures and procurement of supplies decrease and the multiplier becomes lower. The *Economic Outlook 1995* (Schwer, 1995) states that the multiplier effect for southern Nevada is 2. This is consistent with the Regional Interindustry Multiplier System model (discussed in Appendix E) used to support this analysis.

Comment Code: State Government 2-224

Location of EIS Revision(s): None required

Response: Soils are included within the overall topic of geologic media in this discussion and it is noted that the impacts under Alternative 3 are the same as for Alternative 1. The commentor is referred to Alternative 1 for a discussion of those impacts.

Comment Code: State Government 2-225

Location of EIS Revision(s): None required

Response: Refer to the response to Comment Code State Government 2-213.

Comment Code: State Government 2-226

Location of EIS Revision(s): None required

Response: The comment is correct when stating there would be slight job decreases at the NTS from implementing Alternative 4. However, this slight job decrease would not trigger out-migration of population. The comment is incorrect when stating that there are population changes forecast because of the NTS job level under Alternative 4.

Comment Code: State Government 2-227

Location of EIS Revision(s): None required

Response: The referenced section states that the impacts on soils under Alternative 4 would be similar to those described under Alternative 2 for Defense Programs, Alternative 1 for the Waste Management and Work For Others Programs, Alternative 3 for the Site Support Activities, and Alternatives 1 and 3 for the Nondefense Research and Development Program. The basis for this conclusion is provided in the referenced sections except for Alternative 2, wherein no impacts would occur because no contaminated soil would be disturbed. Any contaminated soil that is not remediated would be irretrievably lost as a soil resource.

Comment Code: State Government 2-228

Location of EIS Revision(s): None required

Response: No adverse impacts to biological resources are anticipated under Alternative 2, Section 5.2.1.6, or from Defense Programs under Alternative 4, Section 5.4.1.6, because these alternatives would not result in disturbances of the desert ecosystem.

Comment Code: State Government 2-229

Location of EIS Revision(s): Volume 1, Section 5.5.1.1

Response: The NTS EIS has been revised to include the following text in Section 5.5.1.1: "As discussed in Section 4.1.2, approximately 45,000 Ci/kt would remain in the subsurface 180 days after a test. The types of radionuclides produced are further discussed in Section 4.1.5.2, with tritium likely to be the most abundant radionuclide. Many of the other radionuclides would remain bound up in the melted glass in the event cavity."

Comment Code: State Government 2-230

Location of EIS Revision(s): None required

Response: The requested projection of future tortoise mortality based on rates of known take since 1992 is provided in Section 5.5.1.1 of the NTS EIS. In its Biological Opinion issued May 20, 1992, (U.S. FWS, 1992), the U.S. Fish and Wildlife Service provided an incidental-take authorization of 5 desert tortoises killed during construction or maintenance activities, 20 harassed when moved out of harms way, an unquantifiable number killed by vehicles using authorized routes on the NTS, an unquantifiable number of eggs crushed accidentally, an unquantifiable number of tortoises and eggs taken indirectly due to burrow collapse caused by seismic activity, and an unquantifiable number of tortoises and eggs taken as a result of exposure to hazardous materials.

Comment Code: State Government 2-231

Location of EIS Revision(s): Volume 1, Chapter 1

Response: The DOE's National Environmental Policy Act regulation (10 CFR 1021.330(d)) requires that DOE evaluate sitewide National Environmental Policy Act documents at least every five years. The NTS EIS examines a 10-year planning period as a way to separate short-term (0 to 5 years) from longer-term (5 to 10 years) potential impacts. The requirement to review sitewide National Environmental Policy Act documents every 5 years was discussed in the *Framework for Resource Management Plan* in the NTS EIS. To clarify this issue, this discussion has been added to Chapter 1 of the Final NTS EIS.

Comment Code: State Government 2-232

Location of EIS Revision(s): Volume 1, Section 4.1.6

Response: Additional text has been added to Section 4.1.6 to serve as a base for discussions about soil productivity, revegetation success, and natural rehabilitation.

Comment Code: State Government 2-233

Location of EIS Revision(s): Volume 1, Section 5.6.3.2

Response: Additional text has been added to Section 5.6.3.2 of the NTS EIS to serve as a basis for discussions about soil productivity, revegetation success, and natural rehabilitation. See also response to Comment Code State Government 2-232.

Comment Code: State Government 2-234

Location of EIS Revision(s): None required

Response: Complete information on the locations, extent, and types of groundwater contamination on the NTS is not currently available, but is being gathered by the Environmental Restoration Program. Future

studies will help reduce the current levels of uncertainty concerning both the mechanisms and consequences of radionuclide transport via groundwater flow at the NTS. When sufficient information has become available to characterize the extent and type of contamination, it will be made available to the state of Nevada.

Comment Code: State Government 2-235

Location of EIS Revision(s): Volume 1, Section 5.7.3.1

Response: Additional text has been added to Section 5.7.3.1 of the NTS EIS to describe how replacement soil for reclamation purposes would be acquired and to discuss general information about soil productivity, revegetation success, and natural rehabilitation. See also response to Comment Code State Government 2-232.

Comment Code: State Government 2-236

Location of EIS Revision(s): Volume 1, Chapter 6

Response: The cumulative analysis methodology has been revised. Cumulative impacts are now consistently evaluated by examining the NTS impacts with other impacts described in programmatic analyses prepared by other governmental agencies. This revision has enhanced the consistency of the analysis and has also simplified the methodology to make it more understandable and comprehensive.

The use of "personal communications" has allowed the DOE to accurately verify, update, and supplement the previously published evaluations used in the cumulative analysis. These are included in the NTS EIS files.

Comment Code: State Government 2-237

Location of EIS Revision(s): None required

Response: The discussions concerning the Stateline *Resource Management Plan* and EIS prepared by the U.S. Bureau of Land Management does reference and excerpt information (including Alternative E) presented in the supplemental EIS issued in 1994.

The U.S. Bureau of Land Management's commitment to ecosystem management is addressed in the Biological Resource sections of the Draft EIS. Both the U.S. Bureau of Land Management and the U.S. Air Force are cooperating agencies on this EIS and each participated in the NTS EIS process. The Department of the Interior also filed formal written comments on the NTS EIS. They did not question the referenced section.

Comment Code: State Government 2-238

Location of EIS Revision(s): Volume 1, Chapter 6, Section 6.3

Response: The reference to Table 3-1 has been corrected to read Table 3-5.

Comment Code: State Government 2-239

Location of EIS Revision(s): Volume 1, Chapter 6 and Appendix I

Response: An assessment of impacts from the transportation of radioactive wastes and special nuclear materials has been added to the NTS EIS and Appendix I. This would account for potential activities included in Alternative 3 in which other DOE sites would transport low-level waste and mixed waste to the NTS for disposal and, as a separate action, special nuclear materials (plutonium and highly enriched uranium) would be sent to the NTS for demilitarization activities and stored.

The cumulative impacts to human health from the transportation of low-level waste, mixed waste, and Defense Program materials have been added to the NTS EIS in Chapter 6. Appendix I has been revised to include shipments of Defense Program materials such as surplus plutonium and highly enriched uranium.

Comment Code: State Government 2-240

Location of EIS Revision(s): Volume 1, Section 6.4.6

Response: The requested information relative to the "take" of desert tortoises has been added to the text.

Comment Code: State Government 2-241

Location of EIS Revision(s): None required

Response: The cumulative impacts to air quality are described only to the extent that information is available from published sources. Since most of the programs of other federal, state, and local agencies are still in the conceptual stages and have not gone through rigorous environmental analysis, cumulative impacts can only be discussed in qualitative terms.

The Final NTS EIS does include the air-quality impacts of the six program categories individually, and totals them to show what the commentor refers to as the "cumulative impacts." Table 5.3-13 in the Final NTS EIS shows the Expanded Use Alternative impacts, which are the maximum impacts that would occur as a result of any of the alternatives. The quantitative analysis presented in Chapter 5 has not been repeated in Chapter 6; only the necessary conclusions are presented.

Comment Code: State Government 2-242

Location of EIS Revision(s): Volume 1, Chapter 6

Response: The cumulative analysis methodology has been revised. Cumulative impacts are now consistently evaluated by adding the NTS impacts in a particular discipline to other similar programmatic analyses conducted by other governmental agencies addressing resource management and development plans. This revision has enhanced the consistency of the analysis and has also simplified the methodology to make it more understandable and comprehensive.

Additionally, both the Transportation Study and Human Health Risk Assessment have been revised. Both appendices contain additional information regarding associated risks for all on-going and future activities at the NTS.

Comment Code: State Government 2-243

Location of EIS Revision(s): None required

Response: Refer to Comment Code State Government 2-33 and the general response in Section 1.9 of Volume 3.

Comment Code: State Government 2-244

Location of EIS Revision(s): None required

Response: Soils are included in Section 7.4 as "surface geologic media." As stated in Section 7.4, mitigation measures include administrative and physical controls; minimization of disturbed areas; application of dust palliatives and revegetation; and shoring, bolting, and grouting of unstable slopes.

Comment Code: State Government 2-245

Location of EIS Revision(s): Volume 1, Introduction; Volume II, Section 3.2.3

Response: The NTS EIS text has been revised to reflect the need to consider resource-management policies of federal agencies. The introduction to Chapter 1 has been revised to reflect that the *Resource Management Plan* process will be conducted in accordance with the DOE's Land- and Facility-Use Management Policy. Section 3.2.3 of the NTS EIS Volume II has been modified to indicate that ecosystem management policies of the other federal agencies controlling land near the NTS will be considered during the development and implementation of the *Resource Management Plan*. The reader is also referred to the response to Comment Code State Government 2-38. Also see Section 1.7 of Volume 3.

Comment Code: State Government 2-246

Location of EIS Revision(s): None required

Response: The cleanup of nuclear test areas, which would include any post-shot operations, is covered in the NTS Standard Operating Procedure 6405 (DOE, 1995b). This procedure is prescriptive and establishes a limit for residual radioactive soil at a nuclear test area at 0.2 mrad/hr at 1 cm as averaged over a 1 m² area with a maximum of 1.0 mrad/hr. Inclusion of this information in the body of the NTS EIS is not necessary.

Comment Code: State Government 2-247

Location of EIS Revision(s): Appendix A, Section A.1.3.1.3

Response: Appendices F and J include additional information on potentially hazardous materials associated with dynamic and hydrodynamic tests. The following sentence has been added to Section A.1.3.1.3: "Additional information on potentially hazardous materials associated with dynamic and hydrodynamic tests is provided in Appendix F and the classified supplement, Appendix J."

Comment Code: State Government 2-248

Location of EIS Revision(s): None required

Response: As noted in Volume 1, Section 1.4 of the Draft NTS EIS, the NTS is no longer considered a potential host for tritium supply and recycling facilities. This reference to tritium production has been removed from the Final NTS EIS.

Comment Code: State Government 2-249

Location of EIS Revision(s): None required

Response: Environmental impacts of proposed actions at the Tonopah Test Range under Alternative 3 are discussed in Section 5.3.2. The DOE/NV has environmental, health, and safety responsibility for the Tonopah Test Range. The DOE/NV would ensure that appropriate National Environmental Policy Act reviews are conducted prior to conducting any tests.

Comment Code: State Government 2-250

Location of EIS Revision(s): Volume I, Appendix A

Response: A copy of the referenced *Operable Unit 4 Treatability Study Report for the Vitrification of Residues, from Silos 1, 2, and 3*, Fernald Environmental Management Project, Fernald, Ohio, May 1993, Fernald Office, U.S. Department of Energy (DOE, 1993a), and a copy of the *Final Report of Vitrification Development Studies for Fernald CRU-4 Silo Wastes*, Battelle-Pacific Northwest Laboratory, Richland, WA, April 1994 (Battelle, 1994), for the Fernald Environmental Restoration Management Corporation, has been forwarded to the state of Nevada as requested.

"Corrective action waste" has been deleted from the text of the NTS EIS. This phrase only refers to the action that produces it, and does not provide information on the exact nature of the waste. The corrected form is "Operable Unit 4 vitrified silo waste."

See response to Comment Codes State Government 2-20 through 2-22 and Section 1.12 of Volume 3 for a discussion of special case waste and greater-than-Class-C low-level waste.

Comment Code: State Government 2-251

Location of EIS Revision(s): None required

Response: The statement in the Draft NTS EIS was correct. No new construction was included in Alternative 1. New construction is included in Alternative 3 and is discussed in Section A.2.3.2 of Volume 1.

Comment Code: State Government 2-252

Location of EIS Revision(s): None required

Response: The DOE is not planning to prepare a separate programmatic EIS on disposal alternatives for high-specific-activity low-level wastes.

Please note that high-specific-activity waste is a separate category from Nuclear Regulatory Commission-regulated greater-than-Class-C low-level waste, and from special case waste defined by DOE in the Programmatic EIS. See Comment Codes State Government 2-20 through 2-22 and Section 1.12 of Volume 3 for a definition of special case waste and greater-than-Class-C low-level waste.

Comment Code: State Government 2-253

Location of EIS Revision(s): None required

Response: The actions required by the Site Treatment Plan and the Consent Order are addressed in the NTS EIS in Appendix A, Section A.2.3.2, under the Expanded Use Alternative (Alternative 3). This discussion is based on the assumption that the Cotter concentrate can successfully be treated in an on-site facility. The Site Treatment Plan describes other treatment options to be based on treatability tests and the availability of off-site treatment. These data are not and will not be available prior to the finalization of this EIS. The scope of this EIS is to evaluate the overall impact of several activities; this does not preclude the potential need for additional environmental review for a specific activity. Details on the treatment system, if determined to be feasible, will be presented to the Nevada Division of Environmental Protection in the Part B Permit Application.

Comment Code: State Government 2-254

Location of EIS Revision(s): None required

Response: The DOE is working closely with the federal-grant-funded Corporation for Solar Technology and Renewable Resources to develop the mission principles of the Solar Enterprise Zone. The Corporation for Solar Technology and Renewable Resources is currently engaged in evaluating one or more of the two on-site locations, and the three off-site locations for the potential construction of a large-capacity solar power project. DOE included three off-site locations in the Draft NTS EIS to provide preliminary environmental data in the event one of the sites is proposed for construction of a solar plant. Upon proposal, the appropriate additional National Environmental Policy Act review will be conducted.

Comment Code: State Government 2-255

Location of EIS Revision(s): Volume 1, Section 5.4.5

Response: As discussed in Section 5.3.4, 5.3.6, and 5.3.7, if the Eldorado Valley, Dry Lake Valley, or Coyote Spring Valley sites were chosen for the Solar Enterprise Zone facility, an environmental impact statement, supplemental environmental impact statement, and/or other environmental studies would be performed, as appropriate, to describe all impacts should this site be chosen for a Solar Enterprise Zone facility. Project plans, site preparation, technical studies, and worker-transition training development and implementation would also be accomplished. This information has also been clarified in Alternative 4.

Comment Code: State Government 2-256

Location of EIS Revision(s): Appendix C, Section C.3

Response: Appendix C has been modified to include the DOE Land-and Facility-Use Policy and DOE Order 430.1, "Life Cycle Asset Management" (1995). The Corporate Facilities Land-Use Directive has been canceled with the issuance of DOE Order 430.1. These are the formal expressions of the DOE policy relevant to the *Resource Management Plan*.

Comment Code: State Government 2-257

Location of EIS Revision(s): None required

Response: The regulatory requirements and Public Land Orders described in Appendix C apply to the DOE and the operation of the NTS and other DOE sites in Nevada that were examined in this EIS. The DOE does not concur that the U.S. Bureau of Land Management review process for pre-Federal Land Management Policy Act withdrawals need to be described in Appendix C. See also the response in Chapter 1, Section 1.4 of Volume 3.

Comment Code: State Government 2-258

Location of EIS Revision(s): None required

Response: The DOE disagrees. The use of analytical models for determining the area of influence of pumping water wells is widely used and accepted. The DOE is in the process of developing a calibrated regional groundwater flow model for further evaluation.

Comment Code: State Government 2-259

Location of EIS Revision(s): None required

Response: The methods used to identify and evaluate impacts are described in Section E.26. The matrix described by Wright and Green was used during the initial steps in that process to identify the biological

resources and the components and processes of the natural environment that might be affected by proposed activities.

Comment Code: State Government 2-260

Location of EIS Revision(s): None required

Response: The purpose of Appendix E is not to present the detailed technical methodologies used by various resource disciplines in evaluating the potential environmental impacts, but rather to provide an overview of the general methods used and the assumptions made in analyzing potential impacts. The specific methods used by the technical personnel in preparing this document are based on comprehensive and interdisciplinary methods that have been used successfully in completing other environmental impact analyses prepared by these individuals for the DOE and other federal, state, and local agencies. The methods used were tailored to specific project requirements and the level of analysis required for this EIS. Interdisciplinary aspects of potential environmental impacts were evaluated during the initial analysis of potential impacts and during extensive internal DOE review of the document prior to its being released to the public for review and comment.

Comment Code: State Government 2-261

Location of EIS Revision(s): None required

Response: Appendix F of the NTS EIS evaluates the project-specific environmental, health and safety impacts for the continued and expanded use of the Big Explosives Experimental Facility. As described in Appendix F, the high-explosive devices would be assembled in the existing Area 27 Complex facilities. This assembly operation would be consistent with ongoing Area 27 operations and would comply with existing user laboratory and NTS procedures, safety documentation requirements, and building operating limits. Appropriate operational and safety procedures (material inventory limits and controls, access restrictions, mustering, emergency procedures, evacuation guidelines, etc.) would be followed during the assembly, storage, and transportation of the devices. Any potential impacts from accidental detonation of the devices in Area 27 would be bounded by the accident scenarios developed in the existing safety-analysis documentation for Area 27 Complex facilities (i.e., the assembly devices would be limited in size so that their potential impact from detonation would not be greater than the potential impacts already presented in the existing safety documents). Hence, the devices could be assembled in pieces so they do not exceed the Area 27 Complex facility limits. The final assembly of the devices, including the nonexplosive support fixtures and apparatus needed for the test assemblies, would be done at the Big Explosives Experimental Facility. The Area 27 Complex facilities are existing facilities and have appropriate National Environmental Policy Act compliance for their ongoing mission of assembly, disassembly, or modification of nuclear and high-explosive devices.

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Comment Code: State Government 2-262

Location of EIS Revision(s): Volume 1, Sections 1.1 and 2.1; Appendix F, Section F

Response: Changes have been made to Chapters 1 and 2 and Appendix F of Volume 1 to explain the purpose of the analysis and the relationship of Appendix F to the rest of the NTS EIS. Chapter 4.0 is the description of the existing environment, therefore, it is not necessary to include or reference program, projects, or activities that are part of the expanded-use alternatives or project-specific analysis of future projects. Appendix F analyzes project-specific potential environment, health, and safety impacts, and provides National Environmental Policy Act analysis for the Big Explosive Experimental Facility.

Comment Code: State Government 2-263

Location of EIS Revision(s): None required

Response: Appendix F analyzes potential environment, and health, and safety impacts and is consistent with the National Environmental Policy Act. The Big Explosives Experimental Facility operations comply with applicable federal, state, and local regulations. The NTS operates under appropriate permits and, if project-specific permits are required, they would be obtained before the start of the expanded use of the facility. Section F.7, "Regulation, Order, Law," is intended to list any references used in preparation of the project-specific analysis.

Comment Code: State Government 2-264

Location of EIS Revision(s): None required

Response: The Big Explosives Experimental Facility is an existing facility in Area 4 of the NTS (described in Volume 1, Chapter 1, Section 1.1). This facility has appropriate National Environmental Policy Act compliance for its ongoing bunker-certification tests and shaped-charge experiments (described as Alternative 1 in Appendix F). The project-specific impact analysis in Appendix F has been incorporated into Chapter 5 of the NTS EIS. This EIS is intended to complete the National Environmental Policy Act requirements for the Big Explosives Experimental Facility by evaluating the potential impacts resulting from the alternatives of ongoing or expanded use of the facility.

Comment Code: State Government 2-265

Location of EIS Revision(s): None required

Response: The focus of Volume 1, Appendix H, is the assessment of human health risks associated with activities proposed under the four EIS alternatives. The assessment of impacts to other environmental resources are addressed in other sections of the NTS EIS; e.g., biological resources, geology and soils, hydrology. The assessment of human health risks examines the two exposure pathways, air and groundwater, that have been demonstrated in previous studies to be the pathways of principal concern to human health risk.

Comment Code: State Government 2-266

Location of EIS Revision(s): None required

Response: Volume 1, Appendix H, and its supporting technical references provide sufficient information to demonstrate that the findings and conclusions of the human-health-risk study were developed in a credible, scientific manner.

Comment Code: State Government 2-267

Location of EIS Revision(s): Summary; Volume 1, Chapter 1

Response: The Summary and Chapter 1 of Volume 1 have been revised to include the requested information regarding the relationship between the *Resource Management Plan* and the NTS EIS. See Section 1.7 of Volume 3.

Comment Code: State Government 2-268

Location of EIS Revision(s): None required

Response: In Section 2.3 of the Draft NTS EIS, the DOE indicated that a revised *Resource Management Plan* would be issued with the Final NTS EIS. A revised Plan has been included with the Final NTS EIS, and it contains a schedule for *Resource Management Plan* development. The Record of Decision has not been prepared but the plan will be part of the DOE planning processes as noted in the NTS EIS.

Comment Code: State Government 2-269

Location of EIS Revision(s): Volume 2, Section 1.3; Volume 2, Section 2.1, Step 2

Response: The proposed Corporate Facilities Land Use Order has been canceled due to the issuance of DOE Order 430.1, "Life Cycle Asset Management" (DOE Order 430.1, 1995). The text of Volume 2, Section 1.3, has been modified to include discussion of DOE Order 430.1. Discussion also has been added in Section 1.3 to include the involvement of the future use project with a comprehensive planning process. The DOE does not agree that the NTS EIS needs to include discussion of The Future Use Project report (DOE/EM, 1996). This report lists the status of the NTS *Resource Management Plan*, but provides no additional insight into DOE policy.

The DOE agrees that the importance of sustainable development should be emphasized. The text in Volume 2, Sections 1.3, and 2.1 has been modified.

Comment Code: State Government 2-270

Location of EIS Revision(s): None required

Response: The *Resource Management Plan* in Volume 2 of the NTS EIS is the appropriate location for the acknowledgment of the Memorandum of Agreement (MOA) between the DOE/NV and the Yucca Mountain Site Characterization Office. For further explanation and a description of the purpose of the Memorandum of Agreement, see response to Comment Code State Government 2-105.

Comment Code: State Government 2-271

Location of EIS Revision(s): Volume 2, Chapter 1

Response: The text in Chapter 1 has been modified.

Comment Code: State Government 2-272

Location of EIS Revision(s): Volume 2, Section 1.5

Response: Section 1.5 has been modified to acknowledge stewardship of both manmade and natural resources.

Comment Code: State Government 2-273

Location of EIS Revision(s): None required

Response: The DOE does not agree that this statement implies that the Yucca Mountain Project is given the status of a cooperating agency on the NTS EIS. The DOE will coordinate resource management on those areas managed by the Yucca Mountain Project in accordance with the Memorandum of Agreement between the DOE/NV and the Yucca Mountain Site Characterization Office. See Section 1.5 of Volume 3.

Comment Code: State Government 2-274

Location of EIS Revision(s): Volume 2, Section 1.5

Response: The DOE agrees that the importance of natural resources on the NTS, and the consideration of natural resources in the *Resource Management Plan*, should be emphasized in Section 1.5. The text of that section has been modified in response to Comment Code State Government 2-272 on this topic.

Comment Code: State Government 2-275

Location of EIS Revision(s): Volume 2, Chapter 3, Section 3.2.1 and Chapter 4, Section 4.4

Response: The DOE agrees that another citation from the Yucca Mountain Project would strengthen this point. The text has been modified. Based on this comment, the DOE also has added the following goal to Section 4.4, which concerns land resources and constraints: "When possible, site new facilities in, or as close as possible to, previously disturbed lands in order to preserve and protect undisturbed areas."

Comment Code: State Government 2-276

Location of EIS Revision(s): Chapter 3, Section 3.2.3

Response: The DOE agrees that neighboring agencies have ecosystem management policies that should be considered by the DOE. The text has been modified to reflect this point.

Comment Code: State Government 2-277

Location of EIS Revision(s): Volume 2, Section 4.4

Response: The DOE agrees that the health of ecosystems on the NTS is tied to the interactions between soil, moisture, biota, and the conservation of undisturbed lands. The DOE, therefore, has added a goal to Section 4.4 "Land" to ensure that land disturbances are minimized (refer to Comment Code State Government 2-275). However, the DOE does not agree that a section discussing the importance of soil-water-biota interactions should be added to Section 3.3. The DOE agrees that these concepts should be considered and incorporated into ecosystem-management practices on the NTS when applicable.

Comment Code: State Government 2-278

Location of EIS Revision(s): None required

Response: The Five Party Cooperative Agreement was mentioned in the *Resource Management Plan* only as an example of interagency cooperation and, as such, does not warrant further discussion.

Comment Code: State Government 2-279

Location of EIS Revision(s): None required

Response: The DOE agrees that the concept of protecting undisturbed lands to maintain soil-water-biota relationships is important. See responses to Comment Codes State Government 2-275 and 2-277.

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Comment Code: State Government 2-280

Location of EIS Revision(s): Volume 2, Chapter 3, Section 3.3.4

Response: The text in Volume 2 has been modified to include a reference to Volume II of the Report of the Interagency Ecosystem Management Task Force.

Comment Code: State Government 2-281

Location of EIS Revision(s): None required

Response: When land is withdrawn from public use and reserved for a federal purpose, the Government's right to appurtenant water is implied. As noted in the NTS EIS in Section 4.1.1.1 of Volume 1, the NTS is on withdrawn land and jurisdiction is assigned to the DOE, a federal agency. For any actions that are determined to be outside the mission of the NTS, the DOE will pursue the appropriate process to ensure compliance with all applicable water-appropriation requirements.

Comment Code: State Government 3-1

Location of EIS Revision(s): None required

Response: The U.S. Department of Transportation regulations or orders do not require notification of the DOE for low-level waste shipments. However, the state of Nevada, Clark County, the city of Las Vegas and the city of North Las Vegas require carriers hauling hazardous materials (including radioactive materials) to notify them when entering their jurisdictions. It is DOE policy to require carriers to comply with all state and local regulatory requirements. For additional information, see Section 1.6 of Volume 3.

Comment Code: State Government 3-2

Location of EIS Revision(s): None required

Response: The Record of Decision will contain the final decision concerning the proposed action in this EIS and commitments for associated mitigations. Shipment schedules are not a mitigation; therefore, it would not be appropriate to include them in the Record of Decision. A list of generators, types of waste, volumes, and estimated number of shipments appears in Appendix I and Chapter 5 in Volume 1.

Comment Code: State Government 3-3

Location of EIS Revision(s): None required

Response: The Transportation Protocol Working Group will continue to meet several times a year to discuss transportation issues with the DOE. In addition, concerns that arise between regular meetings can be expressed by conference calls, faxes and telephone conversations. The Energy Technologies Division Director, the DOE/NV Transportation Manager, and the Environmental Management Public Affairs representative are available to the public for interaction.

Comment Code: State Government 3-4

Location of EIS Revision(s): None required

Response: The DOE does not have the authority to select routes. Routes are selected by the carrier in accordance with U.S. Department of Transportation regulations (49 CFR 397.101(a)). Under U.S. Department of Transportation regulations, authority for safe-haven identification is given to individual states. Nevada has not chosen to exercise this authority; if it does, then the DOE will comply. The DOE will arrange for low-level waste shipment carriers arriving during off-hours to park in a secure area inside the gate.

Comment Code: State Government 3-5

Location of EIS Revision(s): None required

Response: It is the DOE's position to use common carriers who are responsible for route selection. It would be inappropriate to include this topic in the Record of Decision. Refer to Section 1.6 of Chapter 1, Volume 3, for further discussion associated with routing.

Comment Code: State Government 3-6

Location of EIS Revision(s): None required

Response: Each carrier or route does not have an individual risk analysis. The transportation risk analysis documented in Appendix I of Volume 1 serve a tool for evaluation in the NTS EIS. U.S. Department of Transportation regulations require the driver to have the route plan in his or her immediate possession.

Comment Code: State Government 3-7

Location of EIS Revision(s): None required

Response: The U.S. Department of Transportation provides the authority for safe haven identification, time of day limitations, holidays, and peak traffic periods to individual states. Nevada has not chosen to initiate any of these restrictions; if it did, the DOE would comply.

Comment Code: State Government 3-8

Location of EIS Revision(s): None required

Response: Refer to Comment Code State Government 3-3.

Comment Code: State Government 3-9

Location of EIS Revision(s): None required

Response: The DOE supplies information to the stakeholders upon request. The DOE is researching possibilities of alternative ways of transmitting information to stakeholders.

Comment Code: State Government 3-10

Location of EIS Revision(s): None required

Response: Relevant analyses from other DOE EISs are incorporated into this EIS. The resource area analyses in Chapter 5 of the NTS EIS were cross-referenced to other EISs, and the potential impacts to the NTS were also considered in the "Cumulative Impacts" analyses of this EIS.

Comment Code: State Government 3-11

Location of EIS Revision(s): None required

Response: Refer to the discussion in Volume 3, Section 1.6.

Comment Code: State Government 3-12

Location of EIS Revision(s): None required

Response: Presently the DOE is evaluating its inventories of radiation detection equipment for possible donation to local communities. Refer to discussion in Section 1.6 of Volume 3.

Comment Code: State Government 3-13

Location of EIS Revision(s): None required

Response: It is not the DOE's policy to provide standard emergency response equipment to local communities. Refer to discussion in Section 1.6 of Volume 3 for additional information.

Comment Code: State Government 3-14

Location of EIS Revision(s): None required

Response: Refer to discussion in Volume 3, Section 1.6.

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Comment Code: State Government 3-15

Location of EIS Revision(s): None required

Response: Refer to information in Volume 3, Section 1.6.

Comment Code: State Government 3-16

Location of EIS Revision(s): None required

Response: Refer to the discussion in Volume 3, Section 1.6.

Comment Code: State Government 3-17

Location of EIS Revision(s): None required

Response: Refer to the discussion in Volume 3, Section 1.6.

Comment Code: State Government 3-18

Location of EIS Revision(s): None required

Response: The DOE complies with all applicable regulations. Regulations require Class 7 materials to be shipped, as a minimum, in strong, tight containers that preclude aerosol disbursement.

Comment Code: State Government 3-19

Location of EIS Revision(s): None required

Response: The stakeholders have identified all general concerns about parking of shipments of low-level waste and mixed waste carriers arriving at the NTS during off hours. The DOE has committed to making parking available in a secure area inside the main gate of the NTS.

Comment Code: State Government 3-20

Location of EIS Revision(s): None required

Response: There is no regulatory requirement to have two drivers present at all times during the transportation of Class 7 waste. If the U.S. Department of Transportation or the Nuclear Regulatory Commission makes this mandatory in the future, DOE will comply.

Comment Code: State Government 3-21

Location of EIS Revision(s): None required

Response: Best management practices require carriers to respond to driver advisories and notifications of delays and adjust their route plans accordingly. For additional information refer to Section 1.6 of Volume 3.

Comment Code: State Government 3-22

Location of EIS Revision(s): None required

Response: Commercial Vehicle Safety Alliance inspections are not required for low-level waste shipments; it is the DOE position to use the Motor Carrier Evaluation Program to ascertain carrier worthiness. The U.S. Department of Transportation and local law enforcement agencies already have enforcement authority; law enforcement can pull over and inspect any vehicle. Vehicles are inspected prior to shipment, as well as through the evaluation program (mentioned above), which uses the Commercial Vehicle Safety Alliance standards. No additional inspection is necessary.

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Municipal Government

Comment Code: Municipal Government 1-1

Location of EIS Revision(s): None required

Response: The Purpose and Need for this EIS is discussed in the Summary and in Volume 1, Section 2.3.4. The moratorium on underground nuclear testing has resulted in the need for the DOE to redefine mission priorities and manage land use at the NTS to support current and future activities mandated by statute, Presidential direction, and Congressional authorization and appropriation. Unlike other project-related EISs, this is a sitewide programmatic EIS and the purpose and need statement addresses in a broad fashion the focus of this EIS.

Comment Code: Municipal Government 1-2

Location of EIS Revision(s): None required

Response: The alternatives describe a number of scenarios that are designed to accommodate current and potential future uses of the NTS. These scenarios are of a programmatic nature and represent a wide range of potential uses.

Comment Code: Municipal Government 1-3

Location of EIS Revision(s): None required

Response: The relationship between the *Resource Management Plan* and this EIS is explained both in the Plan in Sections 1.1 and 1.4 and in the NTS EIS in Volume 1, Section 2.3. In both places, the Plan is characterized as the basis for future planning and is an integral part of the National Environmental Policy Act process for the NTS. It is presented with this EIS as the first step in its development and as an opportunity to solicit public comment on the Plan.

Comment Code: Municipal Government 1-4

Location of EIS Revision(s): None required

Response: Volume 1, Section 2.3, Purpose and Need for DOE Action, describes the development and function of a *Resource Management Plan* for the NTS. The framework for this plan was distributed for public comment as Volume 2 of the Draft NTS EIS. The *Resource Management Plan* will build upon the resource and use descriptions of the Final NTS EIS.

Comment Code: Municipal Government 1-5

Location of EIS Revision(s): None required

Response: Some aspects of Alternative 2 may cause non-compliance with state agreements and with state and federal laws. The Council of Environmental Quality regulations do not require the dismissal of an alternative which contains potential legal issues. The DOE decided to evaluate this alternative in order to look at the full range of use alternatives for this EIS. The no action alternative (Alternative 1) is defined as the continuation of current programs, projects, and activities, which would have the impacts described in Volume 1, Chapter 5. The Council of Environmental Quality requires evaluation of the No Action Alternative.

Comment Code: Municipal Government 1-6

Location of EIS Revision(s): None required

Response: The NTS EIS is of a programmatic nature and thus does not address site-specific impacts except in the case of Appendices F and J. However, where appropriate, quantitative analyses were performed and are included in Volume 1, Chapter 5 of this EIS.

Comment Code: Municipal Government 1-7

Location of EIS Revision(s): None required

Response: Impacts of past weapons testing are described in great detail in Volume 1, Chapter 4, Affected Environments. Section 4.1.2 describes the land use of each area on the NTS and includes the number and type of nuclear tests. Section 4.1.4.2 Geology provides an exhaustive narrative on the geological effects of past nuclear testing. The radiological source term from past testing can be found in this section. Radiologic sources in groundwater are discussed in Section 4.1.5.2. Sections 4.1.6, 4.1.9, 4.1.10, and 4.1.11 all include discussion on the past effects of nuclear testing on the various resources. The information in Chapter 4 was used as a baseline for the impacts analysis (Chapter 5) and was also included in the cumulative impacts analysis.

Comment Code: Municipal Government 1-8

Location of EIS Revision(s): None required

Response: The increased truck traffic related to waste shipments is negligible compared to the total traffic along the main routes leading to the NTS through Clark County. Such an increase in traffic is not likely to depress property values in the urban Las Vegas area, which experiences heavy traffic of a varied nature along its major routes. The court case from a rural area in New Mexico is not analogous to the situation in urban Las Vegas. Property values along established highways in urban Las Vegas are determined by a number of factors, not just by the negative perception that some people may have regarding the transportation of waste on these highways. In New Mexico, private property was condemned to build a new highway bypass specifically for the purpose of transporting waste. In urban Las Vegas, the routes taken by waste haulers are established public highways where the number of trucks hauling waste are a very small percentage of the total traffic.

Furthermore, there is currently no historical or existing information that substantiates a deterioration of the economic environment in southern Nevada based on images or perceptions related to waste shipments. Refer to Section 1.9 of Volume 3 for more information on perception of risk.

Comment Code: Municipal Government 1-9

Location of EIS Revision(s): Chapter 6

Response: Volume 1, Chapter 6, Cumulative Impacts, has been expanded in the Final NTS EIS. This includes a broader discussion of the methods used and an expansion of the base against which the cumulative impacts have been derived. A more quantitative approach to the analysis has also been included in the Final NTS EIS. It is believed that these changes will address the concerns noted.

Comment Code: Municipal Government 1-10

Location of EIS Revision(s): None required

Response: Impacts related to past weapons testing are discussed in Volume 1, Section 4.1.11, Occupational and Public Health and Safety, and in Volume 1, Chapter 6, Cumulative Impacts. Cumulative impacts related to the site characterization impacts at Yucca Mountain have been included in the Cumulative Impacts section. Other future activities at Yucca Mountain that may be associated with construction, operation, and/or closure of a repository are dependent on the DOE first determining that the site is suitable, recommending to the President that the site be developed as a repository, and obtaining Congressional authorization as well as a Nuclear Regulatory Commission license. These actions, if they occur, are beyond the 10-year timeframe of the NTS EIS. Further detail on the relationship of the Yucca Mountain Project Repository EIS and this EIS is found in Volume 1, Section 3.2.6.1 and Section 1.1 of Volume 3.

Comment Code: Municipal Government 1-11

Location of EIS Revision(s): Chapter 6

Response: The information in Volume 1, Chapter 6, Cumulative Impacts, has been expanded, and now includes planned Air Force activities. See the response to Comment Code Municipal Government 1-9 for further information.

Comment Code: Municipal Government 2-1

Location of EIS Revision(s): Volume 1, Sections 4.1.3 and 5.1.1.3

Response: Text has been added to clarify the training that the DOE provides and the responsibilities that the DOE has. For additional information concerning transportation, refer to Section 1.6 of Volume 3.

Comment Code: Municipal Government 2-2

Location of EIS Revision(s): Volume 1, Section 4.1.3 and 5.1.1.3

Response: Text has been added to clarify DOE training and its responsibilities.

Comment Code: Municipal Government 2-3

Location of EIS Revision(s): None required

Response: The DOE is not required to provide notification for low level-waste shipment activities. However, the state of Nevada, Clark County, the city of Las Vegas and the city of North Las Vegas, require carriers hauling hazardous materials (including radioactive materials) to notify them when entering their jurisdictions. It is DOE policy to require carriers to comply with all state and local regulatory requirements. Refer to Section 1.6 of Volume 3 for more information on transportation.

Comment Code: Municipal Government 2-4

Location of EIS Revision(s): None required

Response: The Transportation Protocol Working Group will continue to meet several times a year to discuss transportation issues with the DOE. In addition, concerns that arise between regular meetings can be expressed to the Energy Technologies Division Director, the DOE/NV Transportation Manager, and the Environmental Management Public Affairs representative. Refer to Section 1.6 of Volume 3.

Comment Code: Municipal Government 2-5

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 2-4.

Comment Code: Municipal Government 2-6

Location of EIS Revision(s): None required

Response: See the response to Comment Code Municipal Government 2-1.

Comment Code: Municipal Government 2-7

Location of EIS Revision(s): None required

Response: The material shipped to the NTS does not require special instruments for detection of radioactivity. The low levels of gamma and beta radiation from this material can be detected with a CDV-700 instrument, which has been supplied to the state of Nevada for years by the Federal Emergency Management Agency. The DOE/NV presently is reviewing radiation detection equipment inventories to determine quantity and type of surplus equipment that could be donated to local jurisdictions. Refer to Section 1.6 of Volume 3 for more information.

Comment Code: Municipal Government 2-8

Location of EIS Revision(s): None required

Response: Communication systems and optical devices are standard items for routine responders to incidents involving hazardous materials including radioactive material, explosives, poisons, flammable materials, etc. It is not DOE policy to provide these types of items.

Comment Code: Municipal Government 2-9

Location of EIS Revision(s): None required

Response: Local public safety and emergency response agencies are candidates for the distribution of DOE surplus equipment. Refer to Comment Code Municipal Government 2-7 for more information.

Comment Code: Municipal Government 2-10

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 2-1.

Comment Code: Municipal Government 2-11

Location of EIS Revision(s): Volume 1, Sections 4.1.3 and 5.1.1.3

Response: The First-on-Scene responder training program is available to all emergency response personnel in the state of Nevada. Additional information concerning emergency management and training can be found in Volume 1, Sections 4.1.3 and 5.1.1.3 and in Volume 3, Section 1.6.

Comment Code: Municipal Government 2-12

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 2-1.

Comment Code: Municipal Government 2-13

Location of EIS Revision(s): None required

Response: It is DOE policy to comply with all applicable transportation regulations. At a minimum, all Class 7 materials are shipped in strong, tight, closed containers that preclude aerosol disbursement.

Comment Code: Municipal Government 2-14

Location of EIS Revision(s): Volume 1, Chapter 7

Response: The DOE agrees to make parking space available within the secured area of the NTS.

Comment Code: Municipal Government 2-15

Location of EIS Revision(s): None required

Response: There is no regulatory requirement to have two drivers present at all times during the transportation of Class 7 waste. If the U.S. Department of Transportation or the Nuclear Regulatory Commission makes this mandatory in the future, the DOE would comply.

Comment Code: Municipal Government 2-16

Location of EIS Revision(s): None required

Response: Carriers are required to respond to driver advisories and notifications of delays, and to adjust their routes as appropriate. Refer to Volume 3, Section 1.6 for more transportation information.

Comment Code: Municipal Government 2-17

Location of EIS Revision(s): None required

Response: Commercial Vehicle Safety Alliance inspections are not required for carriers of low-level waste shipments; however, it is DOE policy to use the Motor Carrier Evaluation Program to ascertain carrier worthiness. Vehicles are inspected prior to shipment as well as through the evaluation program, which uses the Commercial Vehicle Safety Alliance standards. No additional inspection is necessary. The U.S.

Department of Transportation and local law enforcement agencies have enforcement authority; law enforcement officially can stop any vehicle and inspect it.

Comment Code: Municipal Government 2-18.

Location of EIS Revision(s): None required

Response: The U.S. Department of Transportation provides the authority to individual states for safe haven identification as well as, time of day, holiday, and peak traffic period limitations. The Nevada Department of Transportation has not initiated these restrictions. Refer to Comment Code Municipal Government 2-14.

Comment Code: Municipal Government 3-1

Location of EIS Revision(s): None required

Response: Refer to the information in Section 1.9 of Volume 3.

Comment Code: Municipal Government 3-2

Location of EIS Revision(s): Section 3.2.6.1

Response: The DOE will evaluate the possible environmental impacts from the construction, operation, and eventual closure of a potential repository for spent nuclear fuel and high-level radioactive waste at Yucca Mountain; including transportation and discussion of potential routing for these waste shipments, in a separate, ongoing EIS. It is not necessarily true that the routes deemed appropriate and designated under the Department of Transportation regulations for low-level waste shipments are the same routes that will be deemed appropriate for future high-level radioactive waste shipments, when they occur. The DOE will follow the Department of Transportation's routing regulations that are in effect at that time to cover shipments of spent nuclear fuel and high-level radioactive waste. See Section 3.2.6.1 and Section 1.1 of Volume 3 for a discussion of the relationship between the Yucca Mountain Repository EIS and this EIS.

Comment Code: Municipal Government 3-3

Location of EIS Revision(s): None required

Response: The DOE is aware of the local concern regarding Craig Road. Refer to the response to Section 1.6 of Volume 3 for a discussion of how routes are selected.

Comment Code: Municipal Government 3-4

Location of EIS Revision(s): Section 3.2.6.1

Response: The routing regulations for hazardous radioactive materials and waste are issued by the U.S. Department of Transportation. Regulations pertaining to the transportation of radioactive high level waste are found in 49 CFR, Part 397, Subpart D, "*Routing of Class 7 (Radioactive) Materials.*" The regulations pertaining to the transportation of hazardous, low-level radioactive materials and waste are found in 49 CFR Part 107 "*Hazardous Material Program Procedures.*"

It is not necessarily true that the routes deemed appropriate and designated (under the Department of Transportation regulations) for low-level waste shipments are the same routes that will be deemed appropriate for future high-level radioactive waste shipments, when they occur. The DOE will follow the Department of Transportation's routing regulations that are in effect at the time to cover shipments of spent fuel and high-level radioactive waste. For additional information on the relationship of Yucca Mountain and the NTS, refer to Volume 1, Section 3.2.6.1, and Volume 3, Section 1.1.

Comment Code: Municipal Government 3-5

Location of EIS Revision(s): None required

Response: In 1961, the Area 5 Radioactive Waste Management Site was established at the NTS for the disposal of low-level waste from both on-site and off-site generators. There is no historical evidence that perceptions associated with the transportation of low-level waste to the NTS has affected the economy of Nevada. The potential for negative perceptions that affect the economy of the state resulting from the transport of nuclear waste within Nevada is addressed in Section 1.9 in Volume 3.

The DOE finds any route selection methodology that meets the U.S. Department of Transportation regulations acceptable. Route selection criteria for the transportation of low-level and high-level waste are found in United States Department of Transportation Regulations 49 CFR 397.101 (a) and (b). The primary criterion for route selection is to minimize radiological risk to the public. Local conditions would be a factor in determining the risk along a given route. Section 1.6 of Volume 3 provides more information on transportation.

Comment Code: Municipal Government 3-6

Location of EIS Revision(s): None required

Response: The DOE maintains an emergency response capability that is prepared to assist in any event involving radioactive materials. This capability exists to support its own operations as well as to assist local and state governments should that assistance be needed. As long as operations continue at the NTS, the emergency response capability will be maintained. See Section 1.6 of Volume 3.

Comment Code: Municipal Government 3-7

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 2-4.

Comment Code: Municipal Government 3-8

Location of EIS Revision(s): None required

Response: There is no requirement for the DOE to notify local governments of low-level-waste shipment activities. However, the state of Nevada, Clark County, the city of Las Vegas, and the city of North Las Vegas require carriers hauling hazardous materials (including radioactive materials) to notify them when entering their jurisdictions. It is the DOE policy to require carriers to comply with all state and local regulatory requirements. For further discussion on Radioactive Waste shipments, refer to Section 1.6 of Volume 3.

The importance of the state having an established notification system is that normally the first on the scene is a policeman or fireman who uses his chain of command to initiate response. The DOE does not automatically respond, but must be asked to participate by a cognizant state of Nevada authority.

Comment Code: Municipal Government 3-9

Location of EIS Revision(s): Chapter 4, Section 4.1.2.4

Response: In Section 4.1.2.4 of the NTS EIS, the phrase, "which are small private airports" has been deleted. It referred to Sky Harbor Airport, Boulder City Airport, and North Las Vegas Air Terminal.

Comment Code: Municipal Government 3-10

Location of EIS Revision(s): Volume 1, Section 4.7.2.4

Response: The text has been revised to replace the reference to Dry Lake Valley with Coyote Spring Valley.

Comment Code: Municipal Government 3-11

Location of EIS Revision(s): None required

Response: Under Alternative 2, even if half the group that out-migrates lived in North Las Vegas, the city would lose only 5 percent of its 1995 population. The anticipated growth of 11 percent would compensate for the loss within the first year, and the result would be a net growth of 6 percent.

Comment Code: Municipal Government 3-12

Location of EIS Revision(s): None required

Response: The growth of traffic resulting from normal population expansion and increased economic activity such as the development of the Las Vegas Motor Speedway is included in the baseline traffic projections as represented by Alternative 1. Alternative 1 (No Action Alternative) shows a traffic growth of 30 percent between the years 1996 and 2000 and another 30 percent between 2000 and 2005. The traffic growth between 1996 and 2005 amounts to approximately 69 percent. In spite of this baseline growth, development of the Solar Enterprise Zone Project would not result in any change in the level of service on Interstate 15 which will continue to operate at level of service "B" or better.

Comment Code: Municipal Government 3-13

Location of EIS Revision(s): Volume 1, Section 5.4.6.2.2

Response: Volume 1, Section 5.4.6.6.2, as referenced by the comment, is actually Section 5.4.6.2.2. Sections 5.3.6.2.2 and 5.4.6.2.2 have been corrected to read U.S. Highway 93.

Comment Code: Municipal Government 3-14

Location of EIS Revision(s): Volume 1, Table 4-6, Table 5.1-4, Table 5.2-4, Table 5.3-4, Table 5.4-4

Response: The reference to North Las Vegas Terminal has been deleted in the indicated tables. The tables have been modified to clarify the road segment references.

Comment Code: Municipal Government 3-15

Location of EIS Revision(s): Chapter 4, Section 4.1.3

Response: The population data provided by the comment have been included in the Final NTS EIS.

Comment Code: Municipal Government 3-16

Location of EIS Revision(s): Volume 1, Section 5.1.1.3, Table 5.1-8, Table 5.1-10, Section 5.2.1.3, Table 5.2-5, Table 5.2-7, Section 5.3.1.3, Table 5.3-9, (was 5.3-10) Table 5.3.-11, (was 5.3-12).

Response: The housing unit data provided by the comment have been included in the Final NTS EIS.

Comment Code: Municipal Government 3-17

Location of EIS Revision(s): Sections 5.1.1.3, 5.2.1.3, and 5.3.1.3

Response: The DOE agrees. New population projections based on the figures provided by the comment have been included in the Final NTS EIS.

Comment Code: Municipal Government 3-18

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 3-11.

Comment Code: Municipal Government 3-19

Location of EIS Revision(s): None required

Response: Refer to Section 1.6 in Volume 3.

Comment Code: Municipal Government 3-20

Location of EIS Revision(s): None required

Response: The DOE is aware of the local concerns regarding Craig Road. Refer to the response to Section 1.6 of Volume 3 for a discussion of route selection.

Comment Code: Municipal Government 4-1

Location of EIS Revision(s): None required

Response: Refer to the response to Comment Code Municipal Government 3-8.

Comment Code: Municipal Government 4-2

Location of EIS Revision(s): None required

Response: Refer to Section 1.6 of Volume 3.

Comment Code: Municipal Government 4-3

Location of EIS Revision(s): None required

Response: Refer to responses in Comment Code Municipal Government 2-1.

Comment Code: Municipal Government 4-4

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 2-7.

Comment Code: Municipal Government 4-5

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 2-8.

Comment Code: Municipal Government 4-6

Location of EIS Revision(s): None required

Response: Refer to Section 1.6 of Volume 3 and Comment Code Municipal Government 2-1.

Comment Code: Municipal Government 4-7

Location of EIS Revision(s): None required

Response: Refer to Section 1.6 of Volume 3 and Comment Code Municipal Government 2-1.

Comment Code: Municipal Government 4-8

Location of EIS Revision(s): None required

Response: Refer to comment responses Comment Code Municipal Government 2-13 through 2-17.

Comment Code: Municipal Government 4-9

Location of EIS Revision(s): None required

Response: The stakeholder's concern is noted. The U.S. Department of Transportation provides the authority for safe haven identification time of day, holiday, and peak traffic period limitations to individual states. The

Nevada Department of Transportation has not initiated any of these restrictions; if they did adopt these programs, the DOE would comply.

Comment Code: Municipal Government 4-10

Location of EIS Revision(s): None required

Response: The programmatic EIS does not present specific details on the Environmental Restoration Program. At present, conceptual alternatives for cleanup have been identified for some of the contaminated media, and demonstration projects are underway for a limited number of alternatives. The final plans for actual remediation have not yet been developed.

With respect to monitoring, the DOE will continue its basic monitoring programs, as described in the NTS EIS, until the additional characterization data is available. At that time, the DOE, in consultation with the regulatory authority, will develop plans for the long-term monitoring of the site that take into consideration the selected remedial alternatives.

Comment Code: Municipal Government 4-11

Location of EIS Revision(s): Volume 1, Figure 4-41a

Response: Figure 4-39 is a map of the hydrographic basins, and shows the boundaries of the basins with respect to surface water drainage, not groundwater flow. The discussion of groundwater basins and flow systems is contained in the groundwater section of this EIS, Section 4.1.5.2 and notes that Death Valley is the final discharge area for the Death Valley Flow system. A map (Figure 4-41a) has been added to the NTS EIS that includes more of the California portions of the flow system.

Comment Code: Municipal Government 4-12

Location of EIS Revision(s): Volume 1, Section 5.1.1.5.2

Response: The reference to Section 4.1.3 is incorrect and has been deleted.

Comment Code: Municipal Government 4-13

Location of EIS Revision(s): Volume 1, Section 5.1.1.5.2

Response: The text has been revised to remove the term "significant existing contamination" from the discussion. The DOE will welcome the opportunity to explore the ways for Inyo County to participate in the environmental restoration process.

Comment Code: Municipal Government 5-1

Location of EIS Revision(s): None required

Response: The DOE included the four federal agencies and Nye County as cooperating agencies during the early stages of the development of this EIS in accordance with the Council on Environmental Quality regulations for implementing the National Environmental Policy Act (Title 40 CFR Parts 1500.5 and 1500.6). These agencies were included because of their jurisdiction and specific expertise with regard to environmental issues which are discussed in this EIS. The DOE sought their cooperation to identify potential impacts to lands owned, administered, or managed by these agencies as a result of implementing the proposed alternatives. The DOE wanted the alternatives evaluated in this EIS to be consistent with the programs and policies of these agencies.

Although the DOE did not request other federal, state, or local agencies to be cooperating agencies, the DOE did contact numerous agencies during the preparation of this EIS and sent copies of the Draft NTS EIS to local governments throughout Nevada, including Esmeralda County, for their review and comment; not just Clark, Lincoln, and Nye counties. The input provided by these agencies during scoping, and in comments on the Draft NTS EIS has been a very valuable component in the overall process. The DOE is committed to working with local governments in Nevada in implementing the preferred alternative, and will continue to seek their input regarding issues related to the NTS.

The DOE has not excluded Esmeralda County from activities involving the NTS. The DOE mailing lists for the NTS include several Esmeralda County agencies and officials, including the County Commission, County Clerk, and School Superintendent. The mailing lists also include the public libraries in Goldfield and Dyer. The DOE also has published public notices regarding NTS activities in the *Tonopah Times*. In March 1995, the DOE held a meeting on transportation issues in Goldfield, which was attended by several Esmeralda County officials; and a scoping meeting for the NTS EIS was held in nearby Tonopah in September 1994.

Comment Code: Municipal Government 5-2

Location of EIS Revision(s): None required

Response: The NTS EIS includes a discussion of environmental resources in Nye, Clark, and Lincoln counties because most direct and indirect effects of the alternatives being considered would occur in those counties. Esmeralda County is not included to the same extent because no direct environmental impacts would occur in the county, and only minimal indirect socioeconomic effects would occur for any of the alternatives.

Comment Code: Municipal Government 5-3

Location of EIS Revision(s): None required

Response: The region of influence for the socioeconomics discussion in the NTS EIS is contained in Section 4.1.3. The region of influence is defined as the area in which the principal direct and secondary socioeconomic effects are likely to occur, and are expected to be of the most consequence to local jurisdictions. Most employees of the DOE, contractor personnel, and supporting government agencies live in Clark County (90 percent) or Nye County (7 percent). The remaining 3 percent live in other areas including Lincoln and

Esmeralda Counties. It was assumed that past trends would continue based on past and predicted settlement patterns, and that the majority of socioeconomic impacts would occur to jurisdictions in these counties.

Comment Code: Municipal Government 5-4

Location of EIS Revision(s): None required

Response: There are two stages for analysis of Environmental Justice impacts. The first stage is the determination of significant adverse impacts for each resource. The second stage is the determination of whether these significant impacts disproportionately impact minority or low-income populations. No significant impacts were identified for any resource in Esmeralda County; therefore, no Environmental Justice impacts would occur.

Comment Code: Municipal Government 5-5

Location of EIS Revision(s): None required

Response: Refer to the responses to Comment Code Municipal Government 5-1, 5-2, 5-3, and 5-4.

Comment Code: Municipal Government 5-6

Location of EIS Revision(s): None required

Response: Refer to the response to Comment Code Municipal Government 3-8.

Comment Code: Municipal Government 5-7

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 2-4.

Comment Code: Municipal Government 5-8

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 2-1.

Comment Code: Municipal Government 5-9

Location of EIS Revision(s): None required

Response: The DOE policy is to provide stakeholders with necessary reports for information. Presently the DOE is considering supplying information to the stakeholder in alternative forms of communication.

Comment Code: Municipal Government 5-10

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 3-8.

Comment Code: Municipal Government 5-11

Location of EIS Revision(s): Volume 1, Sections 4.1.3 and 5.1.1.3

Response: Text has been added to clarify the training that the DOE provides and the responsibilities that the DOE has.

Comment Code: Municipal Government 5-12

Location of EIS Revision(s): Volume 1, Sections 4.1.3 and 5.1.1.3

Response: Text has been added to clarify the training that the DOE provides and the responsibilities that the DOE has. The First-on-Scene responder training program is available to all emergency response personnel in the state of Nevada. Additional information concerning emergency management and training can be found in Volume 1, Sections 4.1.3 and 5.1.1.3.

Comment Code: Municipal Government 5-13

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 5-12 for the response to this comment.

Comment Code: Municipal Government 5-14

Location of EIS Revision(s): None required

Response: It is the DOE policy to comply with all applicable transportation regulations. All Class 7 materials are shipped, at a minimum in strong, tight, containers that preclude aerosol disbursement.

Comment Code: Municipal Government 5-15

Location of EIS Revision(s): None required

Response: The DOE agrees to make parking space available within the secured area of the NTS.

Comment Code: Municipal Government 5-16

Location of EIS Revision(s): None required

Response: There is no regulatory requirement to have two drivers present at all times during the transportation of Class 7 waste. If the U.S. Department of Transportation or the Nuclear Regulatory Commission were to make this mandatory in the future, the DOE would comply.

Comment Code: Municipal Government 5-17

Location of EIS Revision(s): None required

Response: Refer to Section 1.6 of Volume 3.

Comment Code: Municipal Government 5-18

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 2-17.

Comment Code: Municipal Government 5-19

Location of EIS Revision(s): None required

Response: Routes are selected by the carrier in accordance with the U.S. Department of Transportation regulations [49 CFR 397.101 (a)]. Refer to Section 1.6 of Volume 3, for additional information on transportation.

Comment Code: Municipal Government 5-20

Location of EIS Revision(s): None required

Response: It is the DOE's position to use common carriers to ship low-level waste. These carriers are required to know and use the U.S. Department of Transportation regulations (49 CFR 100-177). Please refer to the discussion in Section 1.6 of Volume 3. As discussed in the Transportation Study, Appendix I to this EIS, there are several advantages to using common carriers, not the least of which is their liability for shipments. The DOE has concluded that no benefit is derived from using contract carriers, solely to be able

to dictate routes. There has been, and will continue to be some special instances when a contract carrier will be used to meet requirements and the circumstances for a specific shipment.

Comment Code: Municipal Government 5-21

Location of EIS Revision(s): None required

Response: It is not appropriate for this document to make commitments for the contents of the Record of Decision. The Record of Decision will be developed after consideration of public comments and the Final NTS EIS.

Comment Code: Municipal Government 5-22

Location of EIS Revision(s): None required

Response: Any methodology to select routes that meets the requirements of the U.S. Department of Transportation regulations [49 CFR 397.101(a)] is acceptable. By authority of the U.S. Department of Transportation, carriers are required to select their routes based on the route selection criteria. The primary criterion of route selection is to minimize radiological risk to the public. Refer to Section 1.6 of Volume 3 for additional information on transportation.

Comment Code: Municipal Government 5-23

Location of EIS Revision(s): None required

Response: The Record of Decision has not yet been prepared and the DOE cannot commit in this EIS to its content. Please refer to the discussion in Section 1.6 of Volume 3 regarding route selection.

Comment Code: Municipal Government 5-24

Location of EIS Revision(s): None required

Response: The U.S. Department of Transportation regulations [49 CFR 397.101 (a)] govern route selection for carriers used by generators that ship waste to the NTS. The DOE has no authority in route selection, scheduling and cannot interfere with interstate commerce. Refer to Section 1.6 of Volume 3.

Comment Code: Municipal Government 5-25

Location of EIS Revision(s): None required

Response: The U.S. Department of Transportation provides the authority to individual states for safe haven identification as well as time of day, holiday, and peak traffic period limitations. The Nevada Department of Transportation has not initiated these restrictions.

Comment Code: Municipal Government 6-1

Location of EIS Revision(s): None required

Response: The DOE will continue to keep Clark County informed of activities and functions which may impact the county.

Comment Code: Municipal Government 6-2

Location of EIS Revision(s): Volume 1, Sections 4.1.3 and 5.1.1.3

Response: Text has been added to clarify DOE's responsibilities and the training that it provides. Radiological Assistance Program Team is available to respond to radiological emergencies that occur within DOE Region 7, which includes Nevada, California, and Hawaii. The Radiological Assistance Program Team identifies, controls, and confines hazards resulting from radioactive materials. The scope includes, but is not limited to, radioactive materials of all types and levels bound for the NTS. The expected sequence of notification and telephone numbers for the primary and alternative contacts can be found in DOE/NV-362, *The DOE/NV Radiological Assistance Program Notification Procedure Manual* (DOE/NV, 1995b). Refer to Comment Code Municipal Government 4-6.

Comment Code: Municipal Government 6-3

Location of EIS Revision(s): None required

Response: Analysis presented in this EIS indicates that increased traffic along transportation routes in southern Nevada would not affect property values along transportation routes. Under Alternative 3, the number of trucks bringing radioactive waste from off-site locations to the NTS would increase to 11 per day from 2 per day under Alternative 1. Even this greater than five-fold increase would not add measurably to the current or projected traffic on I-15, U.S. Highway 95, and U.S. Highway 93. For comparison purposes, the 1993 annual average daily traffic count was 11,500 on I-15; 3,635 on U.S. Highway 95, and 747 on U.S. Highway 93 along their most lightly traveled sections in Clark County.

A comprehensive transportation study to accompany this EIS (Appendix I) was conducted with input from the stakeholders through the Transportation Protocol Working Group and the Big Group. This study concluded that the risks along all in-state routes were so low and so similar that it was not meaningful to rank routes solely on the basis of risk. Within Nevada, the transportation risk results in an estimated 0.07 fatalities and 3.8 injuries over the 10-year period of radioactive waste-related shipments.

Comment Code: Municipal Government 6-4

Location of EIS Revision(s): Chapter 4, Section 4.1.12

Response: A discussion of Environmental Justice with regard to the transportation routes has been included in the Final NTS EIS. Because less than 2 percent of the transportation routes would travel through areas of low-income or minority populations in Clark County, it was determined that these populations would not be disproportionately affected by transportation routes, even if they represented a significant, adverse impact.

Comment Code: Municipal Government 6-5

Location of EIS Revision(s): None required

Response: The routes evaluated in the transportation risk analysis are not proposed routes, but were chosen as representative routes for evaluation only. Routes will be selected in accordance with the U.S. Department of Transportation regulations [49 CFR 397.101(a)]. Any methodology to select routes that meets the requirements of the U.S. Department of Transportation regulations is acceptable. Under these regulations, carriers are required to select their routes based on the route selection criteria. The primary criterion of route selection is to minimize radiological risk to the public. The DOE understands the local concern regarding specific routes. See Section 1.6 of Volume 3 for more information.

Comment Code: Municipal Government 6-6

Location of EIS Revision(s): Section 5.1.1.11, Appendix H

Response: Issues related to cultural resources and health risks are found in Cultural Resources and Occupational and Public Health and Safety Sections. The NTS EIS has been revised to clarify the discussion of human health risks. American Indian perspectives on these issues were prepared by the American Indian Writers Subgroup, and are found in italics in these sections. Background on the American Indian Writers Group, which was made up of representatives from the Consolidated Group of Tribes and Organizations, can be found in Appendix G. The discussion of disproportionate impacts to minority and low-income populations as related to cultural resources and risk is found in the Environmental Justice sections of Chapter 5, Sections 5.1.1.12, 5.2.1.12, 5.3.1.12, and 5.4.1.12. The American Indian perspective is also found in italics in these sections.

Comment Code: Municipal Government 6-7

Location of EIS Revision(s): None required

Response: The DOE notes the interest in continuation and enhancement of dialogue. As outlined in Volume 1, Sections 1.6, 2.1, 3.2.3, 3.3.4, and 4 of Volume 2, the DOE is committed to communicating and participating with interested and affected parties in the development of the *Resource Management Plan*.

Comment Code: Municipal Government 6-8

Location of EIS Revision(s): None required

Response: It is not appropriate in this EIS to make commitments on the contents of the Record of Decision. However, the DOE is committed to completing the *Resource Management Plan*, and anticipates completion of the *Resource Management Plan* within 2 years of the publication of the Record of Decision.

Comment Code: Municipal Government 6-9

Location of EIS Revision(s): None required

Response: A region of influence is defined as the area in which effects of site actions are likely to occur and are expected to be of the most consequence. As discussed in this EIS, the regions of influence addressed may vary as appropriate from one resource to another. For example, the economic activity information presented discusses conditions in a region of influence made up of Nye and Clark counties because they included 97 percent of the residential distribution of employees of the DOE, its contractor personnel, and supporting government agencies. The region of influence for air quality was the Nevada Intrastate Air Quality Control Region 147. The region of influence for noise included all sites analyzed and the regions surrounding those sites.

Comment Code: Municipal Government 6-10

Location of EIS Revision(s): None required

Response: Appendix I and the summary of the results in Volume 1, Section 5.1.1.2 of this EIS address the impacts of transporting materials under normal conditions and in case of an accident. Vehicle-related and cargo-related risks along each route were calculated based on present data and projected planned missions.

Comment Code: Municipal Government 6-11

Location of EIS Revision(s): None required

Response: The Environmental Justice analysis for each alternative is located in separate sections. Therefore, Environmental Justice effects related to risk assessment and transportation routes would not be found in the Transportation or Occupational and Public Health and Safety impact sections, but in the Environmental Justice Sections 5.1.1.12, 5.2.1.12, 5.3.1.12, and 5.4.1.12 of Volume 1.

Comment Code: Municipal Government 6-12

Location of EIS Revision(s): None required

Response: The total number of vehicle trips associated with Defense Program and Waste Management Program activities on southern Nevada highways is estimated at approximately 13 shipments per day. Such an increase on any highway in southern Nevada is not likely to cause any traffic congestion. The major generators of off-site traffic on Nevada highways leading to the NTS would be from construction and operation employees. Impacts on highway traffic congestion from these sources are presented in Volume 1, Chapter 5 of this EIS. No significant impacts were found.

Comment Code: Municipal Government 6-13

Location of EIS Revision(s): None required

Response: The analysis of employment and population is a necessary element in the identification of impacts on other socioeconomic elements such as local government revenue and expenditures, housing, and public services. Population increases, for example, do not necessarily result in positive contributions to state and local economics. If unusually large population increases occur as a result of a project over a short period of time, it has the potential for adversely affecting the housing market and public services in a community, at least over a short period. NTS-related activities, even under Alternative 3 (Expanded Use Alternative), would not result in unusually large population increases (638 people or 0.06 percent of the Clark County 1996 population). Nonetheless, impacts on housing, public services, and local government revenue and expenditures are presented in the Socioeconomics section.

Comment Code: Municipal Government 6-14

Location of EIS Revision(s): None required

Response: Population increases associated with NTS-related activities would be generated by jobs. If increased obligations do occur as a result of decisions made by the federal government, NTS employees would continue to contribute funds to the local budget in the form of fees, taxes, etc. Any gap between revenue and expenditures for public services would occur no matter which alternative is chosen by the DOE. A discussion of perception-based impacts on regional prosperity and economic development is presented in Section 1.9 of Volume 3. Mitigation measures are discussed in Section 7.3 of Volume 1, and the Record of Decision will discuss which measures will be implemented.

Comment Code: Municipal Government 6-15

Location of EIS Revision(s): None required

Response: Refer to the discussion in Section 1.9 of Volume 3.

Comment Code: Municipal Government 6-16

Location of EIS Revision(s): Volume 1, Chapter 6

Response: Sitewide alternatives considered in the NTS EIS were developed to include elements contained in numerous other DOE Program EISs that may be located at the NTS. For example, the amount of low-level waste to be shipped to the NTS as described in Alternative 3 is consistent with the amount identified in the "Centralized at the NTS" alternative of the Waste Management Programmatic EIS. The range of alternatives included in the NTS EIS is designed to accommodate and bound the potential decisions that are supported by the other Program EISs. The NTS-specific environmental impacts are then analyzed along with impacts from a range of other programs (e.g., Bureau of Land Management *Resource Management Plans*) within the region of influence for each discipline. This analysis is included in Chapter 6, Cumulative Impacts, which has been revised and augmented.

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Comment Code: Municipal Government 6-17

Location of EIS Revision(s): Volume 1, Section 1.4

Response: Related EISs, including DOE Programmatic EISs, are discussed in Section 1.4 of Volume 1. Additional information has been added to clarify the relationship to other DOE EISs.

Comment Code: Municipal Government 6-18

Location of EIS Revision(s): None required

Response: Waste Management, Environmental Restoration, and Defense Programs are considered in this EIS. High-level waste disposal and storage options are considered too speculative at this time to be included in this EIS. Should plans for such facilities at the NTS mature, a separate National Environmental Policy Act analysis will be undertaken. Please refer to the discussion in Section 1.1 of Volume 3.

Comment Code: Municipal Government 6-19

Location of EIS Revision(s): None required

Response: The NTS EIS includes evaluations of cumulative impacts to all resources of contaminated dirt, mixed wastes, plutonium pits, and other low-level wastes representative of current and projected operations. Not all risks are additive. This EIS is not designed to support, and will not be used for, project-specific decisions except for those evaluated in the Appendices to Volume 1. Any major new projects or disposal actions would be subject to additional National Environmental Policy Act review, as appropriate. This review will include cumulative impact analyses.

Comment Code: Municipal Government 6-20

Location of EIS Revision(s): Volume 1, Chapter 6

Response: Volume 1, Chapter 6, Cumulative Impacts has been revised to evaluate long-term plans for both urban and undeveloped regions of southern Nevada. It is unclear how this interactive process mentioned by the comment would enhance the DOE's current planning processes. Refer to Comment Code Municipal Government 6-19 for more information on impact analyses.

Comment Code: Municipal Government 6-21

Location of EIS Revision(s): None required

Response: A cumulative assessment of the impacts of the transportation of low-level waste and radioactive materials is included in this EIS (see Chapter 6, Cumulative Impacts). The transportation risk analysis evaluates the risks from each of the DOE programs, including waste management, environmental restoration, and defense programs. This analysis includes the combined effects of all programs for incident-free transportation. Results from accident analyses should not be combined since the probability of more than one

of the "maximum credible" accidents occurring at the same location along the transportation routes is highly unlikely.

The level of information requested is not consistent with a programmatic evaluation of impacts; however, many of the items listed in the comment are included in this EIS. The current analysis includes expected origin of inbound materials, overall material quantities, expected level of radioactivity (source term), and shipping container characteristics and capacities. Similar information is also included for outbound materials. Several decisions must be made by the DOE before some of the items can be accurately specified. Other requested items are specified in applicable regulations or would be expected to be determined when plans become more definite.

Comment Code: Municipal Government 6-22

Location of EIS Revision(s): None required

Response: The routes selected and analyzed in the transportation study were identified using the computer model HIGHWAY. This model identified the primary and secondary routes that would be used based on point of destination. With the primary point of destination being the NTS, some of the shipments are required to pass through the Las Vegas area. The routes analyzed take into consideration traffic congestion, road construction, as well as many other factors.

Comment Code: Municipal Government 6-23

Location of EIS Revision(s): None required

Response: Traffic generated by Defense and Waste Management Program activities amounts to approximately 13 shipments per day. Such an increase on any highway in southern Nevada is not likely to add significantly to traffic congestion caused by transportation improvement programs. It is hoped that the agencies responsible for transportation improvement programs in Clark County would take into account NTS-related traffic in developing their enhanced traffic management programs or other remediation programs.

Comment Code: Municipal Government 6-24

Location of EIS Revision(s): None required

Response: In accordance with the U.S. Department of Transportation regulations, routes are chosen by the carriers. The primary criterion of route selection is to minimize radiological risk to the public. The main factors in reducing risk are time and distance considerations, but other factors, such as population density and local conditions, are also factors which would have to be considered when minimizing risk. Refer to Section 1.6 of Volume 3 for additional information.

Comment Code: Municipal Government 6-25

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 6-24.

Comment Code: Municipal Government 6-26

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 6-24.

Comment Code: Municipal Government 6-27

Location of EIS Revision(s): None required

Response: As discussed in Section 1.6 of Volume 3, the DOE does not have responsibility for route selection. Route selection is the responsibility of the carrier. Each driver is required to have a route plan, including plans for deviations, in immediate possession and must follow that route plan. No additional benefit is gained from using a contract carrier for the transport of low-level waste and mixed waste when common carriers, who are familiar with and have used the U.S. Department of Transportation regulations, are available.

Comment Code: Municipal Government 6-28

Location of EIS Revision(s): None required

Response: It is the DOE's position to use common carriers to ship low-level waste. These carriers are required to know and use the U.S. Department of Transportation regulations (49 CFR 100-177). Please refer to the discussion in Section 1.6 of Volume 3. As discussed in the Transportation Study, Appendix I to this EIS, there are several advantages to using common carriers, not the least of which is their liability for shipments. The DOE has concluded that no benefit is derived from using contract carriers, solely to be able to dictate routes. There have been, and will continue to be special instances when a contract carrier will be used to meet requirements for a specific shipment.

Comment Code: Municipal Government 6-29

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 6-28. As noted in the response to preceding comments, there are no significant advantages to using contract carriers.

Comment Code: Municipal Government 6-30

Location of EIS Revision(s): None required

Response: Refer to the discussion of perceived risk in Section 1.9 of Volume 3.

Comment Code: Municipal Government 6-31

Location of EIS Revision(s): None required

Response: Refer to the discussion of perceived risk in Section 1.9 of Volume 3.

Comment Code: Municipal Government 6-32

Location of EIS Revision(s): None required

Response: Refer to the discussion of perceived risk in Section 1.9 of Volume 3.

Comment Code: Municipal Government 6-33

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 1-8.

Comment Code: Municipal Government 6-34

Location of EIS Revision(s): None required

Response: Appendices H and I of this EIS contain risk assessments for human health and transportation. These assessments were prepared to assist the public in understanding some of the primary risks associated with ongoing DOE operations. The DOE will prepare a Mitigation Action Plan which will address management of onsite risks. The Department of Transportation regulations that govern transportation of radioactive materials are discussed in Section 1.6 of Volume 3 and are designed to minimize risk to the public. See Chapter 7 for a discussion of mitigation measures.

Comment Code: Municipal Government 6-35

Location of EIS Revision(s): None required

Response: There are no regulatory requirements for shipment tracking or escort teams for the transportation of low-level waste or mixed waste. It is the DOE policy to comply with all local and state regulations for transportation notification, procedures concerning the shipment, and management of hazardous materials and waste including low-level radioactive waste. The DOE uses the Motor Carrier Evaluation Program for vehicle

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inspections. This program meets all regulatory requirements of management of transportation vehicles. Refer to Section 1.6 of Volume 3 for more information on transportation.

Comment Code: Municipal Government 6-36

Location of EIS Revision(s): None required

Response: Ambient air quality impacts associated with criteria pollutant increases from all mobile sources, including shipments associated with Defense Program and Waste Management Program activities, are presented in Table 5.3-13 of this EIS. The total number of vehicle trips associated with these program activities are very small (about 13 shipments per day). The increase in traffic on any Nevada highway by 13 trucks per day is not expected to impact the ambient air quality.

Comment Code: Municipal Government 6-37

Location of EIS Revision(s): None required

Response: The DOE has long-standing agreements with various agencies concerning the water resources of Clark County. Through Memorandums of Agreement, the DOE has established its arrangements with regard to water resources. These specific agreements are a matter of record and their presentation is not necessary in an EIS.

Comment Code: Municipal Government 6-38

Location of EIS Revision(s): Volume 1, Section 4.1.3 and Section 5.1.1.3

Response: Text has been added to clarify the DOE's responsibilities and training that it provides.

Comment Code: Municipal Government 6-39

Location of EIS Revision(s): None required

Response: The appropriate DOE mitigation commitments will be considered in the Record of Decision. The DOE also will prepare a Mitigation Action Plan to support implementation of the mitigation commitments presented in the Record of Decision.

Comment Code: Municipal Government 6-40

Location of EIS Revision(s): None required

Response: Direct, indirect, and induced effects of employment and procurement were considered in this EIS. The multiplier effect is based on disposable income, as well as possible expenditures for supplies and materials. When requirements of supplies and employment increase, the multiplier increases as well. A

Regional Interindustry Multiplier System model (discussed in Appendix E) was used to support the multiplier effect analysis.

Comment Code: Municipal Government 6-41

Location of EIS Revision(s): None required

Response: The DOE is committed, to the greatest extent practicable and permitted by law, to achieving Environmental Justice as part of its mission. DOE has attempted in this EIS (and will continue in subsequent, tiered National Environmental Policy Act documents) to present information that would allow identification of any disproportionately high and adverse human health or environmental effects on minority and low-income populations, resulting from decisions based on this EIS. When such effects are identified, mitigation measures are also identified. Environmental Justice is discussed in EIS Sections 4.1.12 and 5.1.1.12 (Volume 1). Census blocks with minority and low-income populations are indicated in Figures 4-49 and 4-50 for Clark, Nye, and Lincoln counties.

Comment Code: Municipal Government 6-42

Location of EIS Revision(s): None required

Response: Several sources were cited in the Environmental Justice sections. In addition, the references mentioned in the comment were referred to. See also the discussions in Volume 1, Sections 4.1.12 and 5.1.1.12.

Comment Code: Municipal Government 6-43

Location of EIS Revision(s): None required

Response: The region of influence for Environmental Justice does include Clark County. See Figure 4-49 (Clark County census block groups) and the discussions in Volume 1, Sections 4.1.12 and 5.1.1.12.

Comment Code: Municipal Government 6-44

Location of EIS Revision(s): None required

Response: Refer to the response to Comment Code Municipal Government 6-43.

Comment Code: Municipal Government 6-45

Location of EIS Revision(s): None required

Response: The comment implies that NTS-related activities have adverse impacts on tourism and the economy of the Las Vegas area. It is further implied that adverse impacts to tourism and the gaming industry

have the potential of being detrimental to all residents of Clark County and particularly to minority and low-income populations who rely on the gaming industry for service-level employment. These statements are not borne out by historical experience. The NTS has been in operation since the 1950s and activities in the past, when nuclear testing was at its peak, have not adversely affected the growth of tourism and the gaming industry. In fact, the Las Vegas area has experienced remarkable growth over the past three decades. Since the DOE believes that NTS activities have not resulted in adverse impacts on tourism and the gaming industry, no disproportionately high impacts occur on minority and low-income populations and analysis. Therefore, no analysis of social amplification (sic) and stigma impacts is justified.

Comment Code: Municipal Government 6-46

Location of EIS Revision(s): Volume 1, Sections 4.1.3, 4.1.11, 4.1.12, 5.3.1.10, 6.4, and Appendix G

Response: As a result of internal review, additional information on the extent of cultural resources possibly affected by Alternative 3 programs has been incorporated into this EIS in Volume 1, Section 5.3.1.10 and Section 6.4. Also, as a result of internal comments, the American Indian Writers Subgroup has prepared additional sections concerning socioeconomic issues, perceived health risks, and issues of Environmental Justice. Impacts to these American Indian concerns were also provided by the American Indian Writers Subgroup and incorporated in this EIS under the various alternatives. These additions were also included in the appropriate places in Appendix G. In Volume 1, Chapters 4 and 5 of this EIS, American Indian input is in italics.

Comment Code: Municipal Government 7-1

Location of EIS Revision(s): None required

Response: Several primary routes go through Las Vegas on the way to the NTS. All routing decisions are the responsibility of the carrier, which complies with all applicable local, state, and federal transportation regulations. These regulations require all routes used to minimize the radiological risk to the public. Refer to Section 1.6 of Volume 3 for more information on transportation.

Comment Code: Municipal Government 7-2

Location of EIS Revision(s): None required

Response: The probability of either a release accident or "fender bender" involving a radioactive load is extremely small (Appendix I, *The Transportation Study*). However, the possibility of this happening does not seem to have affected the economy negatively in southern Nevada. Please refer to the discussion of perceived impacts in Section 1.9 of Volume 3.

Comment Code: Municipal Government 7-3

Location of EIS Revision(s): None required

Response: The NTS EIS takes into account all potential activities at the NTS involving DOE wastes that have been formally proposed for shipment to the NTS in addition to those wastes generated at the site. The effects of site characterization activities at Yucca Mountain are addressed in Volume 1, Chapter 6, Cumulative Impacts. Any potential environmental impacts associated with the construction, operation, and eventual closure of a potential repository or interim storage facility will be addressed in a separate National Environmental Policy Act document. Refer to Section 1.1 of Volume 3 for more information.

Comment Code: Municipal Government 7-4

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 6-24.

Comment Code: Municipal Government 7-5

Location of EIS Revision(s): None required

Response: The DOE is aware of local concerns about Hoover Dam; however, it is not DOE's responsibility to select routes. Routes are selected by the carrier in accordance with the U.S. Department of Transportation regulations (49 CFR 397). The primary criterion in selecting routes is to minimize risk to the public. Refer to the discussion of route selection criteria in Section 1.6 of Volume 3.

Comment Code: Municipal Government 7-6

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 3-8 for the response to this comment.

Comment Code: Municipal Government 7-7

Location of EIS Revision(s): None required

Response: A Radiological Assistance Program Team is available to respond to radiological emergencies that occur within DOE Region 7, which includes Nevada, California, and Hawaii. The Radiological Assistance Program Team for this region is based in Las Vegas, NV. The Radiological Assistance Program Team identifies, controls, and confines hazards resulting from radioactive materials. The scope includes, but is not limited to, radioactive materials of all types and levels bound for the NTS. The expected sequence of notification and telephone numbers for the primary and alternative contacts can be found in DOE/NV-362, *The DOE/NV Radiological Assistance Program Notification Procedure Manual* (DOE/NV, 1995b). The DOE does not believe that the expense of a dedicated Radiological Assistance Program Team for the NTS is

warranted, in view of the extremely low risk of a radiological emergency, as described in Appendices H and I of this EIS.

Comment Code: Municipal Government 7-8

Location of EIS Revision(s): None required

Response: Refer to Section 1.6 of Volume 3.

Comment Code: Municipal Government 7-9

Location of EIS Revision(s): None required

Response: Please refer to the discussion in Section 1.9 of Volume 3.

Comment Code: Municipal Government 7-10

Location of EIS Revision(s): None required

Response: The appropriate DOE mitigation commitments will be incorporated into the Record of Decision. Further, the DOE also will prepare a Mitigation Action Plan in support of implementation of the mitigation commitments presented in the Record of Decision.

Comment Code: Municipal Government 8-1

Location of EIS Revision(s): None required

Response: As described in Section 3.6, the Final NTS EIS identifies Alternative 3 and additionally, the public education activities from Alternative 4 as the Preferred Alternative. At the time of publication of the Draft NTS EIS, the DOE had not yet selected a Preferred Alternative.

Comment Code: Municipal Government 8-2

Location of EIS Revision(s): None required

Response: Consistent with the definition of the No Action Alternative in the Council on Environmental Quality regulations, Alternative 1 of this EIS is defined as the continuation of ongoing DOE and interagency programs and activities at the NTS and associated areas in the state of Nevada. The NTS presently serves as a disposal site for low-level waste generated by DOE-approved generators. Managed radioactive waste disposal operations began at the NTS in the early 1960s, and waste has been disposed of in selected pits, trenches, landfills, and boreholes. Under Alternative 1, the DOE would continue to provide waste disposal capabilities to NTS generators and approved off-site generators in the same manner and degree as have occurred within the past 3 to 5 years. Receipt of waste from off-site generators is a legitimate current activity

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eligible for inclusion as a current operation. This alternative is considered as the "No Action" alternative in this EIS because it does not represent a change in current and planned program activities and operations.

Comment Code: Municipal Government 8-3

Location of EIS Revision(s): Volume 1, Section 3.2.6.1

Response: As a result of internal reviews, Section 3.2.6.1 was modified to better explain the relationship between the Yucca Mountain Project Repository EIS and the NTS EIS. Also refer to the discussion in Section 1.1 of Volume 3.

Comment Code: Municipal Government 8-4

Location of EIS Revision(s): None required

Response: The best available estimates are presented in this EIS for all environmental media. The presentation of more detailed information and the comparison of levels with regulatory standards is not possible at this time and is beyond the scope of this EIS.

Comment Code: Municipal Government 8-5

Location of EIS Revision(s): Volume 1, Chapter 6

Response: The cumulative impact discussion in Chapter 6 has been revised to include a broader prospective on the issues identified.

Comment Code: Municipal Government 8-6

Location of EIS Revision(s): None required

Response: The decision to retain, reallocate, or dispose of special-use airspace presently delegated to the DOE for NTS activities will be based on current and future DOE and DoD requirements and the Federal Aviation Administration's review of these requirements relative to national airspace system needs.

Comment Code: Municipal Government 8-7

Location of EIS Revision(s): None required

Response: This EIS discusses the transportation activities of the Defense Program, Waste Management Program, and ongoing site support activities for all the alternatives at a level appropriate for a programmatic EIS. A detailed discussion of this information can be found in Appendix I, the Transportation Study.

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Comment Code: Municipal Government 8-8

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 3-8.

Comment Code: Municipal Government 8-9

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 3-8.

Comment Code: Municipal Government 8-10

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 2-4.

Comment Code: Municipal Government 8-11

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 2-4 and 6-2 for further discussion.

Comment Code: Municipal Government 8-12

Location of EIS Revision(s): None required

Response: This information is routinely provided to the state of Nevada.

Comment Code: Municipal Government 8-13

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 3-8.

Comment Code: Municipal Government 8-14

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 2-7.

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Comment Code: Municipal Government 8-15

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 4-6.

Comment Code: Municipal Government 8-16

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 2-1.

Comment Code: Municipal Government 8-17

Location of EIS Revision(s): None required

Response: The DOE does not have the authority to make routing commitments in the Record of Decision. Any methodology that meets the requirements of the U.S. Department of Transportation regulations [49 CFR 397.101(a)] is acceptable. Refer to Section 1.6 of Volume 3 for additional information on transportation.

Comment Code: Municipal Government 8-18

Location of EIS Revision(s): None required

Response: Refer to Section 1.6 of Volume 3 for a description of DOE responsibilities regarding transportation.

Comment Code: Municipal Government 8-19

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 4-9 and Section 1.6 of Volume 3.

Comment Code: Municipal Government 9-1

Location of EIS Revision(s): Volume 1, Chapter 6

Response: Chapter 6 of Volume 1, "Cumulative Impacts" has been updated to more fully address additive impacts of the NTS alternatives and other reasonably foreseeable development in southern Nevada. Transportation health risks and occupational health and safety analyses are presented in Appendices I and H. These effects would not be expected to be additive since it is highly unlikely that the same individual would be subjected to both an occupational dose and a collective transportation dose.

Comment Code: Municipal Government 9-2

Location of EIS Revision(s): None required

Response: The comment is mistaken when it asserts that the NTS EIS "looks to the next several decades." It analyzes impacts that would likely occur up to the year 2005; however, further National Environmental Policy Act review may be accomplished in 5 years. At that time, subsidized transportation and alternate worker settlement patterns may be in place and would be analyzed. For this EIS, it was assumed that past trends would continue based on past and predicted settlement patterns, and that the majority of socioeconomic impacts would occur in the jurisdictions analyzed. The region of influence chosen is discussed in Section 4.1.3. Most employees of the DOE, contractor personnel, and supporting government agencies live in Clark County (90 percent) or Nye County (7 percent). The remaining 3 percent live in other areas, including Lincoln and Esmeralda counties.

Comment Code: Municipal Government 9-3

Location of EIS Revision(s): None required

Response: Further National Environmental Policy Act review may be accomplished in 5 years, at which time the impacts of subsidized transportation and alternate worker settlement patterns may have changed sufficiently to be analyzed. For this EIS, it was assumed that past trends would continue based on past and predicted settlement patterns, and that the majority of socioeconomic impacts would occur in the region of influence discussed in Section 4.1.3.

Comment Code: Municipal Government 9-4

Location of EIS Revision(s): None required

Response: The DOE believes that the risks and benefits for all surrounding jurisdictions are adequately addressed in this EIS. Risk analysis for the NTS EIS was included in a Human Health Risks and Safety Impacts Study (Appendix H), a Transportation Study (Appendix I) and in Chapter 5. The Human Health Risks and Safety Impacts Study evaluated effects on human health from radiological, chemical, and toxicological substances, as well as physical hazards associated with construction, maintenance, and operations activities at the NTS. Impacts of normal operations and the maximum foreseeable accident were evaluated and negligible risks were found for surrounding communities. Nevertheless, DOE is not authorized to compensate jurisdictions for such risks, perceived or otherwise, and therefore it is not appropriate to speculate on how this might be done.

Comment Code: Municipal Government 9-5

Location of EIS Revision(s): None required

Response: The accident rate along rural two-lane highways in Nevada may well be greater than those along rural segments in another state. Although not under the purview of the DOE, improving the conditions of the roads could reduce accident rates. Total national transportation risk is dominated by vehicle-related consequences, which are not a function of the cargo, and also do not represent a large incremental increase

(less than one additional fatality per year), over the total vehicle fatalities already occurring. In addition, very few vehicle accidents result in a release. In fact, the radiological risk results are dominated by incident-free transportation (not accident-related releases), and this is true along the whole route. In-state accident rate data were used to calculate the risk along the in-state routes, and the risk inside Nevada is compared to risk along the national routes in the NTS EIS. See Appendix I, Volume 1, for more information.

Comment Code: Municipal Government 9-6

Location of EIS Revision(s): None required

Response: Refer to Comment Code Municipal Government 2-1.

Comment Code: Municipal Government 9-7

Location of EIS Revision(s): None required

Response: As reflected in Alternative 1, the NTS has been available for use by federal agencies and by private companies for many years. The Spill Test Facility, for example, has been used by the chemical industry and spill containment industry since 1986. In addition, Alternatives 2 and 4 have elements which could result in increased usage of NTS land by the private sector. For example, the Solar Enterprise Zone is a partnership between government and private industry. Also, there are other projects described under Alternative 3 such as Nondefense Research and Development that may also create partnerships among the DOE and other federal agencies, private companies or both. The impacts of these projects have been analyzed in this EIS, although the actual participants of each project have not always been identified. The DOE welcomes proposals for projects particularly suited for the NTS.

Comment Code: Municipal Government 9-8

Location of EIS Revision(s): None required

Response: Epidemiological baseline studies were discussed in several instances at meetings with stakeholder groups which included representatives of the counties and the state. The concern was noted and part of the answer given, at the time, was that the state of Nevada would review the issues and identify any need for such studies within the state. The state has not identified that need. Additionally, the DOE has sponsored and participated in detailed studies of past releases and their consequences, and the results have been published in the open literature. These studies have identified the potential effects of past releases from the NTS. Congress established the Radiation Exposure Compensation Program in response to issues raised by members of the public related to past activities at the NTS (1-800-729-RECP). Refer to Volume 1, Section 3.2.6.3 for more information.

In the recent past, releases of radioactivity from the NTS have been minimal, and have not exceeded the standards established by the U. S. Environmental Protection Agency. Any emissions from the activities proposed in this EIS are predicted to be well below these standards, now and into the future. On this basis, studies and monitoring programs have not been considered to be necessary and have not been included in this EIS.

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Comment Code: Municipal Government 9-9

Location of EIS Revision(s): None required

Response: While the commentor's suggested activities are not specifically included in the Final NTS EIS, the DOE, under Alternative 3, examined the impacts of constructing and operating a Class II sanitary landfill in Area 5 (Volume 1, Section 5.3). The estimated waste capacity for this landfill is 160,000 yd³ and it could accommodate municipal solid waste originating in the rural counties. The acceptance of off-site solid waste at the NTS, however, would be subject to various approvals including the approval of the state of Nevada Division of Environmental Protection, and appropriate National Environmental Policy Act reviews would have to be completed prior to any solid waste disposal for off-site generators.

The NTS is a critical facility in the DOE's efforts to meet the nation's need to safely maintain the nuclear weapons stockpile, to retain the capability to conduct underground nuclear tests, and to focus on new and challenging issues of national security, energy, and the environment.

This EIS is not the "final word" and is not designed to address all potential future activities at the NTS. Rather, this EIS includes only those actions and alternatives that are considered reasonable at this time. New initiatives and proposals that are compatible with projected site uses would be supported by additional lower tier National Environmental Policy Act documentation.

Comment Code: Municipal Government 9-10

Location of EIS Revision(s): Volume 1, Figures 3-1, 3-2, 3-3, 3-4, 4-3

Response: The figures noted above have been corrected.

Comment Code: Municipal Government 9-11

Location of EIS Revision(s): None required

Response: The DOE is committed to the goal of remediating contaminated sites to ensure that risks to the environment and to human health and safety are either eliminated, or reduced to protective levels. A description of Environmental Restoration Program activities, including Area 13, can be found in Appendix A, Section A.3, Nevada Environmental Restoration Program. An ongoing assessment to identify and remediate contamination will continue in pursuit of these goals.

Comment Code: Municipal Government 10-1

Location of EIS Revision(s): Volume 1, Section 4.1.3

Response: Additional text has been added to this EIS to reflect recent efforts by Nye County to increase economic development in relation to federal installations in the county, including the NTS.

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Comment Code: Municipal Government 10-2

Location of EIS Revision(s): Volume 1, Section 4.1.3

Response: Based upon the County's input, additional text concerning Nye County's efforts to increase economic development opportunities from federal facilities (including the NTS) has been added to Chapter 4.

Comment Code: Municipal Government 10-3

Location of EIS Revision(s): None required

Response: The DOE recognizes Nye County's concerns and also places a priority on the protection of water resources in Amargosa Valley. In conducting the evaluations, the DOE used the most recently available data including the most up-to-date evaluations by the U.S. Geological Survey and the Yucca Mountain Project. While the DOE believes that the modeling done to evaluate the impacts of pumping wells and tritium transport was adequate for the purposes of this EIS, it has also sponsored the on-going development of a calibrated groundwater flow model and regional tritium transport model, additional groundwater characterization, and continued monitoring of water levels and water chemistry. These efforts are designed to further refine the understanding of the conditions in the region with a focus on areas that are potentially impacted, i.e., Beatty and Amargosa Valley. The models are not yet available; upon their completion, the results will be provided to the county. Another keystone of the DOE's approach to protection of the water resources of the region has been to provide the forums for the involvement of county personnel and the public. The DOE has found the input of the county and its citizens to be of extreme importance and will continue to provide the forums for their involvement.

Comment Code: Municipal Government 10-4

Location of EIS Revision(s): None required

Response: The DOE has strategic plans at the national level and at the operations office level. The last revision of the DOE/NV Strategic Plan was January 1995. Alternative 3 most closely reflects the DOE and DOE/NV Strategic Plans.

The DOE has been engaged in an extensive impact analysis and identification of mitigation measures for this EIS. Certain projects were not fully defined, which limited the impact analysis that could be completed. As these projects become better defined, additional National Environmental Policy Act reviews will be conducted. The DOE will publish a mitigation action plan after the Record of Decision is issued on this EIS.

Comment Code: Municipal Government 10-5

Location of EIS Revision(s): None required

Response: As stated in this NTS EIS, the groundwater used for the construction and operation of the proposed Solar Enterprise Zone will reduce the availability of groundwater available for appropriation. However, because the withdrawals will be limited to hydrographic basins on the NTS, they should not have a significant

impact on the downgradient areas in Oasis Valley or Amargosa Valley. As noted in this EIS, the information concerning the zone is preliminary. The final configuration of the Solar Enterprise Zone and water demand have not yet been developed. In performing the evaluations for this EIS, a worst-case evaluation was done that tends to overestimate the impacts. As additional information becomes available concerning this development, it will be shared with the county. Additional impact evaluation would be documented in a tiered National Environmental Policy Act analysis when the proposal is better defined.

Comment Code: Municipal Government 10-6

Location of EIS Revision(s): None required

Response: As with any development, there are "opportunity costs" associated with the development of a Solar Enterprise Zone facility. That is, any water used in the development of a given proposed action is not available for other actions. These opportunity costs may constrain future uses of the NTS. The degree to which future ventures will be constrained cannot be fully ascertained until the plans for the Solar Enterprise Zone facility have been refined and additional evaluations performed. These impacts would be detailed in a tiered National Environmental Policy Act evaluation specific to the Solar Enterprise Zone facility, when the proposal is better defined.

Comment Code: Municipal Government 10-7

Location of EIS Revision(s): None required

Response: The DOE shares Nye County's goal of protecting the water resources of the region. The county is correct; much of the information presented about water resources is general and is drawn upon published sources, as is appropriate for an EIS. The specifics for the analytical models that were used are presented in Appendix E, and all information used will be included in the Administrative Record which will be made available to the county. Refer to response to Comment Code Municipal Government 10-3.

Comment Code: Municipal Government 10-8

Location of EIS Revision(s): None required

Response: The DOE is in the process of calibrating detailed groundwater flow and contaminant transport models for the region. These models have not yet been completed; thus, the results were not available for inclusion in this EIS. Following calibration and final documentation, the models may be of use in evaluating the alternative actions considered in this EIS. Nye County should be aware, however, that there are limitations in the sensitivity of even the most sophisticated models, and there may be more appropriate techniques for conducting such evaluation (such as the more specific analytical models done during EIS evaluations).

Comment Code: Municipal Government 10-9

Location of EIS Revision(s): None required

Response: The DOE agrees that in many instances, evaluations were based upon published information that is decades old. However, the estimated values have served as the basis for water planning in Nevada, and while different investigators may have derived somewhat larger or smaller estimates, revised estimates have not been adopted by the Nevada State Engineer. In many instances, it is simply not possible to measure a value, and estimates must be used. For storage in the upper 100 feet of sediments, the actual value is unknown, and estimates may vary. It is known, however, that a vast amount of water is held in storage.

Comment Code: Municipal Government 10-10

Location of EIS Revision(s): Volume 1, Section 4.1.5.2

Response: The small imbalance between published values of recharge and discharge are the result of the uncertainties in developing the estimates that are presented in the published literature. Section 4.1.5.2 has been revised to indicate that such uncertainties exist. With respect to mining of groundwater, the recharge and discharge are equal, or nearly so, for all of the hydrographic basins in the Great Basin. Just comparing these values would lead to the assumption that any groundwater withdrawals would result in groundwater mining; however, this is not the case. As long as withdrawals do not exceed the recharge to the basin, there is no mining of the groundwater because each year, the groundwater withdrawals are replenished by the recharge for that year. Where withdrawals exceed the recharge, groundwater is removed from storage, i.e., the groundwater is mined. It is only in areas where large-scale groundwater withdrawals have occurred (for example, the Las Vegas Basin) that mining of groundwater has resulted in dramatic declines in water levels. Such declines have not been observed in the basins on the NTS in spite of decades of groundwater withdrawals.

Comment Code: Municipal Government 10-11

Location of EIS Revision(s): None required

Response: As noted in this EIS discussion, water withdrawals for the proposed Solar Enterprise Zone facility would, indeed, result in a lowering of water levels over the area of influence of the well field used to supply the zone. To ensure that these withdrawals do not induce the migration of contaminants or impair water quality, water development will be reviewed within the context of the *Framework for Resource Management Plan* in Volume 2 of this EIS. Before any water development is conducted, the effects of the development will be fully evaluated and the supply wells carefully located to either eliminate or minimize any adverse impacts. For example, the single largest contribution of recharge to the NTS is via underflow from Indian Springs Valley. This underflow is of relatively poor quality, however, because of the high concentration of total dissolved solids. The capture and use of this water through strategically located wells would have no impact on underground testing areas and would remove poorer quality water from the system, resulting in a beneficial impact on the overall water quality.

Comment Code: Municipal Government 10-12

Location of EIS Revisions: None required

Response: The section of this EIS referenced in this comment is in the discussion on surface water and states that "no public water supplies are drawn from springs in Amargosa Valley." The DOE does not anticipate that the status will change in the future because the springs on the NTS are too small for development, and springs in Amargosa Valley are not available for development. The DOE has always considered the groundwater under the NTS to be a precious water resource, and through the implementation of the *Framework for Resource Management Plan*, the DOE will continue to place a high priority on the protection of water resources.

Comment Code: Municipal Government 10-13

Location of EIS Revision(s): None required

Response: The DOE disagrees with the comment that the impacts of contaminated ponds and sewage lagoons are underestimated. The DOE is committed to the goal of remediating contaminated sites to ensure that risks to the environment and to human health and safety are either eliminated, or reduced to protective levels. The specific nature of contamination and contaminant migration at the ponds and sewage lagoons cannot be completely defined until additional information is gathered from characterization activities. When this information is available, the DOE and the state of Nevada, with public input, as defined in the agreement promulgated under the auspices of the Federal Facility Agreement and Consent Order, will agree to any necessary remediation required for these sites. Ponds and sewage lagoons that are potentially contaminated from past activities at the NTS are managed by the Environmental Restoration Program. An ongoing assessment to identify and remediate contamination will continue in pursuit of these goals. Should, through assessment and characterization, the need for liners and/or draining be required for contaminated ponds and sewage lagoons, the DOE will take the necessary remedial actions.

Many ponds and lagoons formerly used at the NTS have been dewatered. Any transient moisture which may accumulate from precipitation would not create enough head pressure to force additional liquids into the vadose zone that had not already been present due to the percolatory effect.

Based on experience at other sites, ponds and lagoons that have been utilized for lengthy periods of time may be sedimented. Depending on the nature of the suspended particulates, the sediment that collects over time in these ponds and lagoons may effectively clog the interstitial spaces in the native material, and form a barrier that prevents the additional migration of liquid into the vadose zone.

Current operating ponds and sewage lagoons are permitted and are in compliance with applicable state and federal regulations. In accordance with state of Nevada Water Pollution Control permits issued for the NTS, all operational primary sewage lagoons are lined with bentonite, and the secondary lagoons, whose purpose are to percolate the water into the vadose zone, conversely are not lined.

Comment Code: Municipal Government 10-14

Location of EIS Revision(s): None required

Response: Under Alternative 2, approximately 582 persons are expected to migrate from Nye County. At the current growth rate, Nye County would continue to grow in population, despite this loss. The NTS EIS recognizes that short-term adverse impacts would occur as a result of Alternative 2. However, because continued economic growth is expected to overcome any loss of jobs from the NTS, no significant socioeconomic impacts are anticipated.

Comment Code: Municipal Government 10-15

Location of EIS Revision(s): Volume 1, Section 7.3

Response: The text has been modified as suggested.

Comment Code: Municipal Government 10-16

Location of EIS Revision(s): Volume 1, Section 4.1.3

Response: Additional text concerning Nye County's efforts to increase economic development opportunities from federal facilities (including NTS) has been added to Chapter 4.

Comment Code: Municipal Government 10-17

Location of EIS Revision(s): Volume 1, Section 4.1.3

Response: The DOE agrees with the first two statements of the comment. Additional text concerning Nye County's efforts to increase economic development opportunities (including with the NTS) has been added to the NTS EIS to provide a more complete description of the relationship between the county and the NTS.

Comment Code: Municipal Government 10-18

Location of EIS Revision(s): Volume 1 Section 4.1.3

Response: Most of the NTS workforce commutes to the Las Vegas area and most food and other services are provided at federally subsidized facilities on the NTS. Intergovernmental revenues of Nye County were approximately 55 percent of total revenues in Fiscal Year 1994. A major component of this revenue was supplemental city/county relief; therefore, the NTS cannot be considered a principal element of intergovernmental revenues. The DOE recognizes the importance of the contribution of Nye County to the NTS; however, the true nature of the role of the NTS in Nye County is somewhat narrow.

Comment Code: Municipal Government 10-19

Location of EIS Revision(s): None required

Response: The DOE recognizes the importance of the NTS to Nye County employment. Volume 1, Section 4.1.3 acknowledges that the NTS dominated the Nye County economy in the 1970s and 1980s and that in 1990 the largest employment sector in Nye County was service industries, which includes NTS jobs.

Comment Code: Municipal Government 10-20

Location of EIS Revision(s): None required

Response: The NTS EIS recognizes that the federal government controls 93 percent of the land area in Nye County, limiting the amount available for private development.

Comment Code: Municipal Government 10-21

Location of EIS Revision(s): None required

Response: Public service ratios for communities in Nye County are discussed in Section 4.1.3, "Socioeconomics." Impacts of increased or decreased population related to the alternatives on Nye County services are presented in Chapter 5. No impacts on Nye County public services are expected as a result of any alternative.

Comment Code: Municipal Government 10-22

Location of EIS Revision(s): None required

Response: Local emergency management, response personnel, and mutual aid agreements are discussed in Volume 1, Section 4.1.3, under the Public Services subheading.

Comment Code: Municipal Government 10-23

Location of EIS Revision(s): None required

Response: The DOE recognizes that Alternative 2 would result in short-term adverse impacts. These impacts would not be significant, however, because the Nye County economy would recover within one year if the current growth rate continues. Average annual employment growth in Nye County between 1980 and 1990 was 6.4 percent, higher than the state of Nevada (5.3 percent) and the United States (2.2 percent).

Comment Code: Municipal Government 10-24

Location of EIS Revision(s): None required

Response: As noted by the comment, unusually large population increases occurring over a short period of time as a result of a project, have the potential for adversely affecting public services in a community. The trend noted by the comment is acknowledged; however, the NTS-related activities, even under Alternative 3 (Expanded Use Alternative), do not result in unusually large population increases (90 people or 0.33 percent of the Nye County 1996 population). If increased obligations do occur as a result of decisions made by the federal government, NTS employees living in Nye County would continue to contribute funds to the local budget. Any gap between local jurisdictions' revenues and expenditures would occur no matter which alternative is chosen by the DOE.

Comment Code: Municipal Government 10-25

Location of EIS Revision(s): Chapter 6

Responses: Chapter 6, Cumulative Impacts, has been restructured and augmented, addressing the concern noted by the comment. Please see Volume 1, Section 6.4.3.

Comment Code: Municipal Government 10-26

Location of EIS Revision(s): Volume 1, Chapter 7 Introduction

Response: The DOE recognizes and appreciates the relationship that has existed between the NTS and Nye County over the past four decades and is pleased to acknowledge this relationship in this document. Text in Volume 1, Chapter 7 has been modified.

Comment Code: Municipal Government 10-27

Location of EIS Revision(s): Volume 1, Section 7.3

Response: Volume 1, Section 7.3 has been modified to reflect local impacts.

Comment Code: Municipal Government 10-28

Location of EIS Revision(s): None required

Response: The DOE recognizes Nye County's concerns regarding expanded waste management operations at the NTS. As actions comprising the expanded waste management operations are formulated and potential risks and/or burdens to the county associated with this program are identified, appropriate mitigation actions including those listed in the comment will be included in the DOE's on-going discussions with Nye County.

Comment Code: Municipal Government 10-29

Location of EIS Revision(s): Chapter 7

Response: The referenced sentence was modified to indicate that the DOE will participate in the development of a joint state, federal, and local government conference to promote a national and international environmental technology development center.

Comment Code: Municipal Government 10-30

Location of EIS Revision(s): None required

Response: The transportation section of this EIS (specifically Volume 1, Section 5.3.1.2.2, "Off-site Traffic") states that key road segments within metropolitan Las Vegas and U.S. Highway 93 at Hoover Dam would deteriorate to an unacceptable level of service "F" by the year 2000. This deterioration refers to the level of service or amount of traffic congestion, not the physical condition of the roads. At its highest level of contribution to traffic congestion (Alternative 3), approximately 100 to 250 vehicles of all types, including waste shipment trucks, would be added to U.S. Highway 95 between Las Vegas and Mercury during the peak hour by the year 2000. Other roadway segments would experience less than 100 additional vehicles during the peak hour. Because of regional growth in the Las Vegas area, key roads would deteriorate to level of service "F" even if Alternative 2 (Discontinue Use) were chosen. U.S. Highway 93 at Hoover Dam already operates at level of service "F" because of its steep grades and narrow curves. The amount of additional traffic expected as a result of Alternative 3 would not cause any road to reach the level of service "F" at a faster rate. DOE's contribution to any mitigation of deteriorating conditions would be addressed based on this analysis.

Comment Code: Municipal Government 10-31

Location of EIS Revision(s): None required

Response: Attachment F of Appendix I, Transportation Study, in Volume 1 of the Draft NTS EIS was prepared to study the provision of rail access to the Nevada Test Site, and took other previous studies into account in developing the alternatives that would be analyzed in the NTS EIS. These other studies include those prepared to support the Yucca Mountain Project (Figure F-1 was drawn from one of these Yucca Mountain studies), as well as city of Caliente corridor studies, a 1962 Atomic Energy Commission feasibility study at the NTS, and a draft report of high-speed surface transportation between Las Vegas and the NTS. All of these studies were considered before developing the two options for the NTS rail access that are described in Attachment F, Section F.1.2. The analysis is performed to consider potential environmental effects that may occur from developing these rail access routes. The introductory paragraphs to Attachment F make it clear that it is not targeted at supporting a specific decision in this EIS, because rail transportation is not being proposed as part of the alternatives evaluated in this EIS. Rail transport is not being considered in the NTS EIS because there is no rail spur to provide service to the NTS.

The Yucca Mountain Repository EIS will be prepared to consider the potential environmental impacts associated with construction, operation, and eventual closure of a repository at Yucca Mountain, Nevada. It will include analysis of transportation of spent nuclear fuel and high level radioactive waste from producer and generator sites across the nation. As stated in Section 3.2.6.1 of the NTS EIS, the Repository EIS will incorporate information from the NTS EIS and other EISs, as appropriate, to support its analysis. The CGTO,

along with all other organizations and members of the public, will have the opportunity to review and comment on the Draft Repository EIS when it has been released, and the DOE will again consider and respond to these comments as part of finalizing the Repository EIS. See Section 1.1 of Volume 3.

Comment Code: Municipal Government 10-32

Location of EIS Revision(s): None required

Response: Refer to Section 1.1 of Volume 3.

Comment Code: Municipal Government 10-33

Location of EIS Revision(s): Volume 1, Chapter 5, Section 5.3.1.2.3

Response: Under Alternative 3, Defense Program test devices, nuclear explosives, and pits may be shipped to the NTS for dismantlement and/or storage. These shipments have been added to the transportation analysis documented in Appendix I.

Comment Code: Municipal Government 10-34

Location of EIS Revision(s): None required

Response: Alternative 3, the Expanded Use Alternative, was defined by including any project indicated in other DOE EISs that identify the NTS as an alternative site as well as the potential expansion of programs that already exist at the NTS.

The analysis of impacts to the NTS under Alternative 3 includes those identified in proposed projects in other EISs (to the extent that this information is available at this time). However, the Record of Decision for the NTS EIS will not make a decision to select the proposed projects in these other EISs. Therefore, the NTS EIS can only identify land and facilities that could be used for such projects. If the Expanded Use Alternative were selected in the NTS EIS Record of Decision, this information could be used along with other factors to aid the decisionmaker in selecting the location for activities in the *Resource Management Plan*. If other DOE EISs have chosen the NTS as the site for the potential programs, further National Environmental Policy Act reviews would occur prior to the commencement of that program at the NTS.

Comment Code: Municipal Government 10-35

Location of EIS Revision(s): Volume 1, Sections 5.1.1.2.3, and 5.3.1.2.3, and Appendix I

Response: The comment is noted. Defense Program transportation activities for ongoing and future activities has been added to the text. The revision includes analyses of all potential programs that have been identified to be relocated to the NTS by other DOE programmatic environmental impact statements. When complete information about these programs becomes available, DOE will examine whether the transportation analysis should be updated.

Comment Code: Municipal Government 10-36

Location of EIS Revision(s): None required

Response: Potential stigmatizing effects of various NTS activities do not seem to have affected the economy negatively in southern Nevada. No historical or existing information describes a deterioration of the economic environment in southern Nevada based on the development activities or images that are being presented. In fact, the reverse is true, given the current development history of the area. Section 1.9, Volume 3, of this EIS provides a more detailed response on the perceived stigma related to the NTS and the economy of southern Nevada.

Comment Code: Municipal Government 10-37

Location of EIS Revision(s): None required

Response: The incident-free transportation risk calculations do not explicitly reflect projected changes in traffic volumes and population in communities located adjacent to Interstate 15, U.S. Highway 95, and U.S. Highway 93. Some communities along transportation routes are expected to experience increases in traffic volume and population in the future, while other communities would experience decreases. It would not be reasonable to attempt to account for community-specific changes along all the shipping routes considered in this EIS. If such a detailed analysis were to be undertaken, the results of the analysis would not be expected to be substantively different from the analysis already performed.

Comment Code: Municipal Government 10-38

Location of EIS Revision(s): Appendix I, Chapter 2

Response: The Appendix has been re-worked to clarify this point. This EIS now states that the only alternative under which rail transport would be viable is the one in which the NTS is the sole disposal site for low-level waste and mixed waste (Alternative 3) for the entire DOE complex.

Comment Code: Municipal Government 10-39

Location of EIS Revision(s): None required

Response: Attachment F of Appendix I, Transportation Study, in Volume 1 of the Draft NTS EIS was prepared to study the provision of rail access to the NTS, and took other previous studies into account in developing the alternatives that would be analyzed in the NTS EIS. These other studies include those prepared to support the Yucca Mountain Project (Figure F-1 was drawn from one of these Yucca Mountain studies), as well as city of Caliente corridor studies, a 1962 Atomic Energy Commission feasibility study at the NTS, and a draft report of high-speed surface transportation between Las Vegas and the NTS. All of these studies were considered before developing the two options for NTS rail access that are described in Attachment F, Section F.1.2. The analysis is performed to consider potential environmental effects that may occur from developing these rail access routes. The introductory paragraphs to Attachment F make it clear that it is not targeted at supporting a specific decision in this EIS, because rail transportation is not being proposed as part

of the alternatives evaluated in this EIS. Rail transport is not being considered in the NTS EIS because there is no rail spur to provide service to the NTS.

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Comment Code: Municipal Government 10-40

Location of EIS Revision(s): Volume 1, Sections 4.1.3 and 5.1.1.3

Response: Text has been added to clarify the DOE's responsibilities and the training that it provides.

Comment Code: Municipal Government 10-41

Location of EIS Revision(s): None required

Response: The demilitarization activity underway at the NTS is a demonstration of potential technologies for the destruction of obsolete conventional munitions. This demonstration involves the destruction of a small quantity of conventional munitions and could lead to a program of demilitarization activities; however, no large-scale demilitarization programs are currently being considered in this EIS. Future large-scale activities involving the demilitarization of obsolete conventional munitions would require their own National Environmental Policy Act reviews before they could begin. Affected state, local, and tribal governments as well as the public would have an opportunity to review National Environmental Policy Act documents and participate in the process.

Comment Code: Municipal Government 10-42

Location of EIS Revision(s): Volume 2, Section 2.1

Response: The DOE has supported the formation of the Community Reuse Organization in Nevada as a single voice to communicate to the DOE and coordinate economic development initiatives. This in no way precludes direct interaction between the DOE and Nye County on these or other issues. The text has been changed in Volume 2, Section 2.1, Step 3, to emphasize the role of local communities in economic development issues.

Comment Code: Municipal Government 10-43

Location of EIS Revision(s): None required

Response: At this time, the DOE/NV has not developed further details of public participation in the planning process. These comments are noted and will be carefully considered as the *Resource Management Plan* is developed.

Comment Code: Municipal Government 10-44

Location of EIS Revision(s): None required

Response: As described in Volume 2, Section 1.6, the *Resource Management Plan* will be developed with the participation of state, county, and local governments. The DOE is currently seeking comments on how to involve all interested parties in the process. The recommendation to establish intergovernmental working groups will be reviewed and will likely be implemented.

Comment Code: Municipal Government 10-45

Location of EIS Revision(s): None required

Response: At this time, the DOE/NV has not developed further details on how planning will be conducted in conjunction with Nye County or other agencies; however, the DOE is committed to meaningful partnerships with surrounding land managers. These comments are noted and will be carefully considered as the *Resource Management Plan* is developed.

Comment Code: Municipal Government 10-46

Location of EIS Revision(s): Volume 2, Section 2.1

Response: The text has been modified as requested.

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Companies

Comment Code: Company 1-1

Location of EIS Revision(s): Volume 1, Appendix A, 4.3.1

Response: The DOE/NV acknowledges that the Corporation for Solar Technology and Renewable Resources has refined the Solar Enterprise Zone projects during the last 18 months and has also reviewed the additional information provided by the Corporation for Solar Technology and Renewable Resources. The new information provided allowed sections in the NTS EIS to be updated where necessary. The Draft NTS EIS was published in January 1996 using the best information available at that time, and analyzed a reasonable scenario for Solar Enterprise Zone activities regarding land disturbance and water requirements, among others.

Comment Code: Company 1-2

Location of EIS Revision(s): Volume 1, Appendix A, Section A.4.3.1

Response: Information presented in the Draft NTS EIS regarding the Solar Enterprise Zone was based upon the best available data during the preparation of this document. Analysis in the Draft NTS EIS uses a scenario which maximizes disturbed land and water use. This assumes a 1,000 MW facility that disturbed 2,400 acres of land and a solar technology that maximizes water use. The new information provided regarding the acreage of disturbed land or the amount of water required for the facility(ies) was considered during revision of the NTS EIS, but since a reasonable scenario had already been evaluated, no changes to the impact evaluations were made. Appendix A descriptions of these activities have been revised to reflect Corporation for Solar Technology and Renewable Resources' current strategy. Any additional National Environmental Policy Act reviews would consider the most recent data to provide decision makers with up-to-date information regarding the Solar Enterprise Zone initiative.

Comment Code: Company 1-3

Location of EIS Revision(s): None required

Response: The DOE/NV agrees that southern Nevada is an ideal place for the development of alternative energy resources, specifically solar energy, and actively promotes the NTS for Solar Enterprise Zone facilities. As has been stated in the NTS EIS, the NTS could support 100 MW of solar energy generation with no investment needed towards upgrading the existing transmission infrastructure. Additional power generation is feasible if the transmission infrastructure is upgraded. The EIS, however, analyzes the impacts of a 1,000 MW facility located on a single site, disturbing 2,400 acres of land and using solar technology which maximizes water use.

Comment Code: Company 1-4

Location of EIS Revision(s): None required

Response: The DOE/NV agrees that the Solar Enterprise Zone generating facilities represent a variety of technologies that may occur at locations on the NTS and at one (or more) off-site locations. The technologies

discussed in the NTS EIS include photovoltaic, solar thermal parabolic trough, solar central receiver (power tower), and parabolic dish/sterling. For analysis purposes, however, the NTS EIS uses a 1,000 MW facility located on a single site, disturbing 2,400 acres of land and using solar technology which maximizes water use. The resulting positive socioeconomic impacts are described in the NTS EIS in Sections 5.3.1.3 and 5.3.7.3 in the Alternative 3, "Expanded Use," sections.

Comment Code: Company 1-5

Location of EIS Revision(s): None required

Response: The DOE/NV agrees that the NTS is an ideal place for the development of alternative energy resources, specifically solar energy, and actively promotes the NTS for Solar Enterprise Zone generating facilities.

Comment Code: Company 1-6

Location of EIS Revision(s): Volume 1, Chapter 6, Section 6.4.5 and Chapter 7, Section 7.5.2

Response: Although it is not prudent to place water-dependent solar technologies at water-deficient sites, these types of situations have been considered in this EIS. The sites being considered for solar technology development have been evaluated using a worst-case scenario in terms of affected environment; this analysis includes scenarios which maximize water use. As such, Section 7.5.2 discusses the possible mitigating measures needed if the Solar Enterprise Zone is located on the NTS and substantially impacts the quantity and quality of its groundwater resources.

Comment Code: Company 1-7

Location of EIS Revision(s): None required

Response: The construction of Solar Enterprise Zone generating facilities and the associated land disturbance have been considered in this EIS. The sites being considered for solar technology development have been assigned a reasonable scenario in terms of affected environment. This analysis includes land disturbance, and as stated in Section 5.5 of the NTS EIS, some adverse effects would result from these activities.

Comment Code: Company 1-8

Location of EIS Revision(s): None required

Response: The DOE expects to continue its involvement in many alternative energy projects, including solar energy research. Although no plans exist at the current time, the possibility does exist for the DOE to become involved in future Solar Enterprise Zone/Corporation for Solar Technology and Renewable Resources projects.

Comment Code: Company 1-9

Location of EIS Revision(s): None required

Response: The analysis which was performed to determine the impacts of the Solar Enterprise Zone facilities were based upon a 1,000 MW facility, located on a single site, and disturbing 2,400 acres of land while maximizing water use. This has been an assumption used to formulate information regarding the impacts of Solar Enterprise Zone activities.

Comment Code: Company 1-10

Location of EIS Revision(s): None required

Response: Although the Eldorado Valley appears more suitable for a larger power generating facility, all of the potential sites have been assessed in the same way in the NTS EIS. The types of solar technologies to be used and their respective sites have not yet been finalized at this time. Therefore, acreage requirements and water use for the potential facilities were based upon a worst-case scenario which sites a 1,000 MW facility at a single location.

Comment Code: Company 1-11

Location of EIS Revision(s): None required

Response: Socioeconomic impacts for Solar Enterprise Zone activities have been assessed in Sections 5.3.1.3 and 5.3.7.3 of this EIS. It is anticipated that Solar Enterprise Zone activities would increase local employment and aid local economies.

Comment Code: Company 2-1

Location of EIS Revision(s): None required

Response: The alternatives have been designed to allow the DOE to analyze and compare the potential environmental effects of a wide range of use options. The Final NTS EIS has identified Alternative 3 plus the public education activities of Alternative 4 as the DOE Preferred Alternative.

Comment Code: Company 2-2

Location of EIS Revision(s): None required

Response: The DOE is acting in coordination with the federal-grant funded Corporation for Solar Technology and Renewable Resources to develop the mission principles of the Solar Enterprise Zone. The Corporation for Solar Technology and Renewable Resources is currently engaged in analyzing suitability preparatory to selecting one or more of the two on-site locations and/or one or more of the three off-site locations for the construction of a large-capacity solar power project.

The National Environmental Policy Act requires that all reasonable alternatives be analyzed. The three off-site locations have been identified as potential locations for solar generation facilities and consequently must be analyzed in this EIS.

Comment Code: Company 2-3

Location of EIS Revision(s): None required

Response: The DOE, in order to satisfy the intent of the National Environmental Policy Act and to evaluate a full range of use alternatives, included an alternative (Alternative 2) that would discontinue Environmental Restoration Program activities. Alternative 2 provides the DOE with the means to evaluate the impacts of not performing environmental restoration. The commentor should note that the DOE has identified Alternative 3 as the Preferred Alternative in the Final NTS EIS, and this alternative includes environmental restoration.

Comment Code: Company 2-4

Location of EIS Revision(s): None required

Response: According to the Council on Environmental Quality, the No Action Alternative consists of continuing with the present course of action until that action is changed (46 FR 18026; March 23, 1981). Therefore, Alternative 1 (Continue Current Operations) was considered the No Action Alternative for this EIS. The NTS EIS does examine two alternatives with reduced levels of activity: Alternative 2 (Discontinue Operations) and Alternative 4 (Alternate Use of Withdrawn Lands).

Comment Code: Company 2-5

Location of EIS Revision(s): None required

Response: Please see the response to comment Company 2-4 for a discussion of the No Action Alternative.

Comment Code: Company 2-6

Location of EIS Revision(s): None required

Response: At the time the Draft was prepared, the DOE did not have a preferred alternative and thus more was stated in accordance with the Council on Environmental Quality regulations. The DOE believes that the four alternatives evaluated in the NTS EIS are reasonable and allow the DOE to analyze and compare the potential environmental effects of a wide range of use options for the NTS. The DOE conducted seven public scoping meetings, four public hearings, four community workshops, and allowed an extended 90-day comment period to accommodate extensive public review of the Draft NTS EIS. The DOE does not believe that another Draft EIS is necessary.

Comment Code: Company 2-7

Location of EIS Revision(s): None required

Response: The DOE has attempted to provide meaningful opportunities for citizen involvement in the preparation of the NTS EIS. See response to Comment Code Company 2-6 above.

Comment Code: Company 3-1

Location of EIS Revision(s): None required

Response: The statement in this EIS that the NTS is probably the most geologically well known large area is based on the thousands of technical reports that have been issued not only through DOE publications, but also by such highly respected organizations as the Nevada Department of Conservation and Natural Resources, the U.S. Geological Survey, the Geological Society of America, and the National Academy of Sciences. The statement is not made within the restricted viewpoint of stratigraphy, but rather for all areas of geological interest. Given that the DOE has sponsored many technical investigations since 1977, the information based on the geology of the NTS has grown significantly and the geologic conditions are even better known.

Comment Code: Company 3-2

Location of EIS Revision(s): None required

Response: The geologic community has always had access to the extensive published materials regarding the geologic conditions at the NTS as well as information through symposiums, meetings of technical organizations, and other presentations. The DOE also allows access to the NTS for research under the Nevada Environmental Research Park program. Researchers must first agree to adhere to security and environmental requirements to protect site resources and access procedures necessary to avoid interference with other activities on the NTS.

Comment Code: Company 3-3

Location of EIS Revision(s): None required

Response: As part of the Defense and Environmental Restoration programs, the DOE has developed detailed stratigraphic sections and cross sections. This information was used by the preparers of this EIS, but it was not included because it is too voluminous, and the level of detail was not necessary for analysis. This information is cited in the references which provide more detailed discussions of specific geology subareas. The wealth of published information is supported by myriad data drawn from extensive characterizations of both the surficial geology and the subsurface conditions. In fact, the DOE is considered by many to be at the forefront of investigations into many areas because of the detailed investigations and sophisticated testing that has been, and continues to be done under its sponsorship at the NTS. The DOE continues to collaborate with respected practitioners of modern regional structural geology, stratigraphy, and volcanology. See also Comment Code Company 3-1.

Comment Code: Company 3-4

Location of EIS Revision(s): None required

Response: Because of the many geologic environments present at the NTS, numerous stratigraphic sections have been prepared and published. The commentor is referred to the stratigraphy section and reference section of the Site Characterization Plan for Yucca Mountain (DOE, 1988). This document, available in all of the Yucca Mountain Reading Rooms and in most Nevada county and municipal libraries, provides a more detailed description of the stratigraphy and a more comprehensive reference list. Correlations with regional units have also been done and are available in published sources. The sequences that are part of the regional carbonate aquifer are shown on Figure 4-21 in this EIS. On this figure, the hydrogeologic units are listed in the second column while the corresponding geologic formations are shown under the heading "Geologic Formations." The commentor is correct in noting that there is no reference to regional karst intervals; however, a discussion of areas with increased transmissivity is provided as part of the discussion of the NTS hydrology in Section 4.1.5 of the NTS EIS.

Comment Code: Company 3-5

Location of EIS Revision(s): None required

Response: The DOE is conducting an extensive investigation of the aquifers on the NTS including not only the Paleozoic sequence, but the extensive alluvial and volcanic terrains as well. The information concerning the potential for economic development of oil, gas, or mineral deposits on the NTS is defined in Chapter 4 of the NTS EIS. This level of information is adequate for determining the potential impacts of alternative actions being considered for the NTS.

Comment Code: Company 3-6

Location of EIS Revision(s): None required

Response: Over the almost 50-year period that the DOE has been conducting detailed geologic studies of the NTS, highly qualified scientists representing all geologic disciplines have conducted independent, peer reviewed investigations.

Comment Code: Company 3-7

Location of EIS Revision(s): None required

Response: Surface gamma ray logs are seldom used for correlations of surface and subsurface sections. Rather, reliable ties are based upon a variety of physical and chemical rock characteristics. In the carbonate sequence, adequate correlations for the scale of investigations are based upon lithologic descriptions and paleontology. The DOE routinely has a whole suite of down-hole geophysical logs run for their characterization borings and wells. In some cases, the principal investigators include the results of gamma logs side by side with the stratigraphic log. In other instances, the logs are shown separately.

Comment Code: Company 3-8

Location of EIS Revision(s): None required

Response: The paragraph summarizes briefly the tectonic history of the region. A detailed discussion of each particular tectonic episode is beyond the appropriate level-of-detail for this EIS. The hydrology section of the NTS discusses the relationship between groundwater flow and geologic structures.

Comment Code: Company 3-9

Location of EIS Revision(s): None required

Response: A detailed description of the geologic history of the NTS, and adjoining regions would be of academic interest only, and is not necessary to determine the impacts of the alternative being analyzed in this EIS.

Comment Code: Company 3-10

Location of EIS Revision(s): None required

Response: The possible relationship between similar structures of different ages necessitates a level of detail far greater than required to support analyses in this EIS.

Comment Code: Company 3-11

Location of EIS Revision(s): None required

Response: The relationship between structures on the NTS and hydrocarbon potential is not addressed because of the low potential for hydrocarbons. The relationship between hydrothermal circulation and these structures is not included because it is not within the scope of this EIS. The discussion of the relationship between groundwater and structures on the NTS is provided in the section on hydrology. A discussion of fault control on hydrocarbon fluid migration is beyond the scope of this EIS.

Comment Code: Company 3-12

Location of EIS Revision(s): None required

Response: A discussion of the types of faults bounding the Elena Formation is not necessary to support analysis in this EIS. The commentor is referred to the cited references for more information concerning the structures on the NTS.

Comment Code: Company 3-13

Location of EIS Revision(s): None required

Response: The definition of specific thrust sheets is not needed to support the analysis of impacts in this EIS. The reader is referred to the cited references for more information concerning geologic structures on the NTS.

Comment Code: Company 3-14

Location of EIS Revision(s): None required

Response: A discussion of the particular structural plates involved in nuclear testing is not needed to support the analysis of impacts in the NTS EIS. Information about groundwater in the carbonates has been used in the analysis in this EIS.

Comment Code: Company 3-15

Location of EIS Revision(s): None required

Response: The DOE's groundwater investigations are not limited to perched aquifers; these investigations include all of the aquifers under the NTS that have potential as a contaminant pathway.

Comment Code: Company 3-16

Location of EIS Revision(s): None required

Response: The map presented in Figure 4-24 is a generalized map that was included to support the discussion on recent seismicity. Many other mapped faults which are either inappropriate to display at the scale shown or are no longer active exist on the NTS.

Comment Code: Company 3-17

Location of EIS Revision(s): None required

Response: A detailed discussion of the many fault-related studies that have been conducted at the NTS would require a level of detail not needed to support the analysis of impacts in this EIS.

Comment Code: Company 3-18

Location of EIS Revision(s): None required

Response: The commentor is referred to the cited references in the section on hydrocarbon resources. The principal investigators who conducted the work were qualified scientists; with expertise in geology and soil sciences.

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Comment Code: Company 3-19

Location of EIS Revision(s): None required

Response: The Nevada Bureau of Mines and Geology maintains an extensive database on petroleum exploration and potential in Nevada which is available for review. The identity of those who collected the data, the structural plate, and the sequences would be available in the database. For a discussion of the parameters used in defining the hydrocarbon references, the commentor is referred to the cited references.

Comment Code: Company 3-20

Location of EIS Revision(s): None required

Response: The cited references include publications by the Nevada Bureau of Mines and Geology, and the U.S. Geological Survey. The commentor is referred to the cited references for more information concerning the certifications of the investigators.

Comment Code: Company 3-21

Location of EIS Revision(s): None required

Response: Test wells on the NTS were not drilled for the purposes of petroleum exploration, but most were logged by contract geophysical logging firms active in the petroleum industry using standard operating and quality assurance procedures.

Comment Code: Company 3-22

Location of EIS Revision(s): None required

Response: The cited references include publications by the Nevada Bureau of Mines and Geology, and the U.S. Geological Survey, two of the many well-qualified organizations that have published information which has been summarized in the NTS EIS. For example, the hydrocarbon potential map presented in Figure 4-28 is based upon a Nevada Bureau of Mines and Geology document. The DOE believes that the documents were prepared by independent, experienced, and unbiased agencies and that the findings presented in those documents are reliable.

Comment Code: Company 3-23

Location of EIS Revision(s): None required

Response: No further evaluations are planned.

Comment Code: Company 4-1

Location of EIS Revision(s): Volume 1, Appendix A, Section A.4.3.4

Response: The Draft NTS EIS included descriptions of projects and activities as known prior to its publication in February 1996. Alternative 3 descriptions also included an expansion of research, test, and experiment land-use zones on the NTS that are set aside for compatible defense and nondefense use. Kistler Aerospace's contemplated activities are consistent with this land-use zone definition. Additionally, the potential impacts from Kistler Aerospace's contemplated activities are bounded by the general heavy-industrial facility evaluated under Defense Program activities.

In response to this comment, the DOE considered Kistler Aerospace's Project a Technology Development Program activity and modified Section A.4.3.4 to include Kistler Aerospace's contemplated activities as a potential future activity under this program. The DOE understands that, to the extent that future National Environmental Policy Act review is required in connection with the satellite delivery aspects of this project, such review would occur in conjunction with the Federal Aviation Administration licensing process.

Comment Code: Company 5-1

Location of EIS Revision(s): Volume 1, Chapter 6

Response: The Cumulative Impacts sections have been updated, as necessary, to reflect currently available information on other proposed activities in the region. Environmental impact statements being prepared by Nellis Air Force Base and the Fallon Naval Air Station on their respective proposed actions will provide the opportunity for the state of Nevada, the Western Shoshone Nation, and other interested parties to express any concerns regarding those actions.

Comment Code: Company 5-2

Location of EIS Revision(s): None required

Response: The decision to retain, reallocate, or dispose of special-use airspace presently delegated to the DOE for NTS activities will be based on current and future DOE and Nellis Air Force Base requirements and the Federal Aviation Administration's review of these requirements relative to national airspace system needs.

Comment Code: Company 6-1

Location of EIS Revision(s): None required

Response: This comment is a duplicate of Comment Code Company 3-1, 3-2, and 3-3. The commentor is referred to the responses to those comments.

Comment Code: Company 6-2

Location of EIS Revision(s): None required

Response: This comment is a duplicate of Comment Code Company 3-4, 3-5, 3-6. and 3-7. The commentor is referred to the responses to those comments.

Comment Code: Company 6-3

Location of EIS Revision(s): None required

Response: This comment is a duplicate of Comment Code Company 3-8 except for the last sentence which is responded to as part of Comment Code Company 6-4. The commentor is referred to the responses to those comments.

Comment Code: Company 6-4

Location of EIS Revision(s): None required

Response: The processes that result in the "mixing" of waters in the aquifers under the NTS are complicated, reflecting the location of multiple source and discharge areas, the presence of a number of aquifers of quite variable hydraulic properties, and the geologic structures that are present. A discussion of the current level of understanding of these processes is not necessary for the analysis in this EIS. The NTS EIS focuses on the water resources, their quantity and quality, and the potential impacts upon these resources that could result if the proposed actions or alternatives are implemented.

The commentor is correct in noting that there is no discussion of how the Las Vegas shear-zone affects groundwater movement in the deep carbonate aquifer. The DOE has focused its past investigations on the portions of the flow system that include the NTS and areas hydraulically downgradient of that facility. A description of the potential interactions between specific aquifers and structures upgradient of the potentially impacted areas is not necessary for the analysis in this EIS.

There is no mention of deep-monitoring wells to measure the velocity of a hypothetical tritium plume toward the Las Vegas basin because the movement of groundwater from the NTS into the Las Vegas basin is not a credible scenario. Migration of a tritium plume from the NTS to the Las Vegas basin is contrary to all published literature concerning the hydrology of the region, and is considered to be a hydraulic impossibility.

Comment Code: Company 6-5

Location of EIS Revision(s): None required

Response: This comment is a duplicate of Comment Code Company 3-9. The commentor is referred to the response to that comment.

Comment Code: Company 6-6

Location of EIS Revision(s): None required

Response: This comment is a duplicate of Comment Code Company 3-10 and 3-11. The commentor is referred to the responses to those comments.

Comment Code: Company 6-7

Location of EIS Revision(s): None required

Response: This comment is a duplicate of Comment Code Company 3-12 and 3-13. The commentor is referred to the responses to those comments.

Comment Code: Company 6-8

Location of EIS Revision(s): None required

Response: This comment is a duplicate of Comment Code Company 3-14, and 3-15. The commentor is referred to the responses to those comments.

Comment Code: Company 6-9

Location of EIS Revision(s): None required

Response: The first half of this comment is a duplicate of Comment Code Company 3-16 and 3-17. The commentor is referred to the responses to those comments. With respect to the second half of the comment, the commentor may request the referenced material through standard channels for access of data concerning the NTS, including the Nevada Library System. The scientists who contributed to the preparation of this EIS and who have performed detailed geologic analyses are imminently qualified both by training and experience to perform the assigned tasks.

Comment Code: Company 6-10

Location of EIS Revision(s): None required

Response: This comment is a duplicate of Comment Code Company 3-18, 3-19, 3-20, 3-21, 3-22 and 3-23. The commentor is referred to the responses to those comments.

Comment Code: Company 6-11

Location of EIS Revision(s): None required

Response: The deep carbonate aquifer is discussed in this EIS. A sequence stratigraphic analysis is not necessary for the analysis in this EIS. Summary information on the stratigraphy is presented at a level commensurate with a sitewide EIS.

Comment Code: Company 6-12

Location of EIS Revision(s): None required

Response: The suggested analysis is not required for analysis in this EIS.

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Organization

Comment Code: Organization 1-1

Location of EIS Revision(s): None required

Response: The DOE will remediate contaminated sites in accordance with applicable environmental laws and regulations. For some areas, however, remediation is not currently feasible because of technological limitations. The goal of the DOE's Environmental Restoration Program is to ensure that risks to the environment and to human health and safety, as posed by inactive and surplus facilities and sites, are either eliminated or reduced to safe levels. Safe levels are established by law and through consultation with appropriate federal and state regulatory authorities.

Investigations and risk assessments are being conducted for each Corrective Action Unit (grouping of environmental restoration sites) to determine the extent of contamination, the potential for exposure to the contamination, and to compare potential exposure to established standards for protection of human health and the environment. The DOE will continue to monitor lands that could potentially pose a threat to public health and the environment and will take appropriate actions to mitigate potentially significant impacts should monitoring suggest that significant impacts could occur.

Comment Code: Organization 1-2

Location of EIS Revision(s): None required

Response: It is agreed that transportation is not 100-percent accident free. The Transportation Study in Appendix I identifies possible accidents and their risks. The values noted are very low. The DOE exerts every effort to prevent accidents and the accident record demonstrates success.

Comment Code: Organization 1-3

Location of EIS Revision(s): None required

Response: Many options are considered by waste-generating sites prior to deciding on the final disposition of waste. In some cases, on-site storage is chosen as the preferred option. One off-site generator that has disposed of low-level waste at the NTS has recently decided to store a specific waste stream on-site. This was determined to be the best disposition of the waste stream. On-site storage, however, is not a solution to a waste problem in most cases. Stored waste can pose a risk to human health from direct exposure, as well as a risk to the environment from potential leaks. Disposed waste, however, can eliminate or reduce the potential for human health impacts from contact with the waste and eliminate or reduce the potential for environmental damage.

Comment Code: Organization 1-4

Location of EIS Revision(s): None required

Response: Activities and operations conducted by the DOE at the NTS are planned and carried out in a manner that minimizes risk to members of the general public and the on-site workforce. The remoteness of the NTS from populated areas, the considerable land area that provides a buffer between the public and on-site activities, as well as public access restrictions, all serve to enhance public health and safety. In addition, the goal of the DOE's Environmental Restoration Program is to ensure that risks to the environment and to human health and safety posed by inactive and surplus facilities and sites are either eliminated or reduced to protective levels.

Comment Code: Organization 1-5

Location of EIS Revision(s): None required

Response: There is no evidence to indicate that activities conducted at, or in relationship to, the NTS over the last 40-plus years or as discussed in the NTS EIS would significantly alter the potential for continued economic prosperity and economic development in the region. For additional discussion on this topic, please refer to the Major Issues discussion contained in Volume 3, Chapter 1, Section 1.9.

Comment Code: Organization 1-6

Location of EIS Revision(s): None required

Response: The goal of the DOE's Environmental Restoration Program is to ensure that risks to the environment and to human health and safety, as posed by inactive and surplus facilities and sites, are either eliminated or reduced to safe levels. For additional discussion, please refer to the response under Comment Code Organization 1-1.

Comment Code: Organization 1-7

Location of EIS Revision(s): None required

Response: The DOE concurs with the comment that precipitation should not be contaminated by contact with toxic soils. The DOE has sampled the occasional flows in the streambeds that drain the NTS to evaluate if runoff is contaminated through contact with soils. The results to date have not indicated the migration of contaminants via this pathway except for naturally occurring salts that result from the interactions between the runoff and playa sediments, volcanic rocks, and limestones.

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Comment Code: Organization 1-8

Location of EIS Revision(s): Volume 1, Chapter 4, Section 4.1.4.2

Response: The DOE agrees with the observation that aquifers can transport contamination very long distances, and the definition of the extent and magnitude of subsurface contamination under the NTS is the major focus of the DOE's Environmental Restoration Program. As noted in this EIS (Section 4.1.5.2), the zones of high transmissivity in rocks are associated with fractures and dissolution features. With respect to seismic activity, some temporary fluctuation in groundwater levels may be caused by earthquakes, and some increased fracturing of the rock aquifers may occur. The section on seismicity (Section 4.1.4.2) has been modified to reflect these phenomenon.

Comment Code: Organization 1-9

Location of EIS Revision(s): None required

Response: The migration of radionuclides through the ecosystem and the effects of radiation on plants, animals, and humans have been intensively studied since the advent of the nuclear age. The United States, under the auspices of the Atomic Energy Commission, then the Energy Research and Development Administration, and now the DOE has funded many such investigations conducted by state universities and national laboratories. The Nevada Applied Ecology Group was one of several DOE-funded programs.

The Nevada Applied Ecology Group's specific goals included (1) delineating locations of radiation contamination on and near the NTS, (2) determining radionuclide concentrations in ecosystem components, (3) quantifying rates of movement among ecosystem components, (4) evaluating radiological hazards of radionuclides (plutonium in particular), (5) identifying areas which need to be cleaned up or treated, and (6) developing techniques for cleanup or treatment. To meet these goals, the Nevada Applied Ecology Group conducted studies of plutonium, uranium, americium, and other radionuclides in the environment on and near the NTS from July 1970 to September 1986. About 540 reports and papers were prepared during this 16-year effort and much of what is currently known about radioecology in desert ecosystems came from this effort. As stated in the comment, plants can take up radionuclides through their roots from contaminated soil, and grazing domestic and wild animals can absorb these radionuclides. These processes have been documented in numerous Nevada Applied Ecology Group publications (see Friesen, 1992, referenced in the NTS EIS for a summary of the Nevada Applied Ecology Group programs).

Ecosystem studies in the 1970s and 1980s were coupled with investigations on the distribution and inventory of radionuclides in soils in and near the NTS (funded through the Radionuclide Inventory and Distribution Program (1981-1986) and the Plutonium Inventory and Distribution Program (1970-1980). The DOE has used the results of all radionuclide investigations to prioritize areas slated for decontamination. A major goal of DOE's Environmental Restoration Program, whose activities are described in this EIS, is to decontaminate nuclear testing areas for possible future unrestricted use. It is the awareness of possible adverse effects of chronic radiation exposure which mandates the need for this program.

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Comment Code: Organization 1-10

Location of EIS Revision(s): None required

Response: Sections 3.2.6.3 and 4.1.7 of this EIS discuss past and current atmospheric releases of radioactivity. Current releases are very small and do not exceed the standards established by the U.S. Environmental Protection Agency. Future releases are predicted to meet current standards as well. The DOE has sponsored and participated in evaluations of past radioactive releases, and the information has been widely published in the relevant literature. The studies have included the areas of southern Nevada and Utah, areas considered "downwind." Congress has established programs for compensating those individuals who have suffered harm resulting from radioactive releases. Information about these programs can be found by calling the Radiation Exposure Compensation Program Office at 1-800-729-REAP.

Comment Code: Organization 1-11

Location of EIS Revision(s): None required

Response: General noise levels at the NTS are discussed in Section 4.1.8. As discussed in this section, the major noise sources at the NTS include equipment and machines (such as transformers, engines, pumps, boilers, construction and material-handling equipment, and vehicles), explosives testing, and aircraft operations. At the NTS boundary, which is away from facilities, noise levels are normally barely distinguishable from background noise levels.

The comment states that explosion noise has been heard outside the NTS boundary. While noise from the Big Explosives Experimental Facility might be heard off of the NTS, the noise levels are below safety limits. Noise impacts from the Big Explosives Experimental Facility are discussed in Appendix F, Section F.5.5.2. Noise levels have been monitored, and noise levels were found to be below 140 dB at 8 m (27 ft) from the explosive charge. The 140-dB limit has been adopted by the U.S. Department of Defense Explosives Safety Board and is also an Occupational Safety and Health Administration limit. Traffic and personnel would be prevented from entering within a radius of between 500 m and 8,500 m (1,640 ft and 28,000 ft) from the explosive charges. Therefore, while the explosive charge detonations can be heard, no personnel or members of the public would be allowed within the radius of exclusion (safety zone) and noise impacts would not be significant.

Comment Code: Organization 1-12

Location of EIS Revision(s): None required

Response: Visual impacts, as analyzed in an NTS EIS, result from a change in the basic visual elements of form, line, color, and texture. Unless contamination directly affects the physical appearance of the affected landscape, it would not result in the reduction of visual quality.

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Comment Code: Organization 1-13

Location of EIS Revision(s): None required

Response: American Indian cultural sites, as well as other kinds of archaeological sites, are abundant on the NTS. These have been summarized in Chapter 4. To ensure that these sites are identified and protected, cultural resource surveys are conducted prior to ground-disturbing activities. It is DOE policy to avoid such sites when possible. Consultations with tribal groups that have historic or cultural ties to the NTS are conducted to include tribal participation in the DOE's Cultural Resource Management Program.

Comment Code: Organization 1-14

Location of EIS Revision(s): None required

Response: The comment has been noted. The DOE is committed to all aspects of health and safety, and protection of the environment. Appendix H of this EIS, evaluates the risk associated with ongoing and future activities to the public and workers.

Comment Code: Organization 1-15

Location of EIS Revision(s): None required

Response: The DOE is committed, to the greatest extent practicable and permitted by law, to achieving Environmental Justice as part of its mission. The DOE has attempted in this EIS, and will continue in subsequent tiered National Environmental Protection Act documents, to present information that would allow identification of any disproportionately high and adverse human health or environmental effects on minority and low-income populations resulting from decisions based on this EIS. When such effects are identified, mitigation measures are also identified.

There are several ways an individual or group can get information for evaluating DOE activities. The Community Advisory Board, established in early January of 1994, meets monthly. Eighteen public reading rooms are available throughout Nevada where DOE documents and other materials are available for public review. Any group, association, organization, technical or professional conference attendees, community affairs and special events participants, and other interested parties are welcome to call or write in requests for information, display, or speakers. The NTS tours are coordinated through the Public Affairs and Information Office and are available to the general public, students, and other interested groups.

A comprehensive mailing list consisting of those interested in various topics has been developed so that timely, topical information can be sent to them. Any member of the public can be added to the mailing list by calling or writing the DOE/NV.

In addition, public participation is encouraged and requested for all DOE NEPA documents. For this EIS, public participation included a 90-day period, from February 2, 1996, to May 3, 1996, to provide comments regarding the Draft NTS EIS. A series of four public hearings and four Community Outreach Education workshops were held. In addition, comments on this EIS were accepted by fax, in writing, or through a 24-hour toll-free comment line.

Comment Code: Organization 1-16

Location of EIS Revision(s): None required

Response: All toxic hazardous wastes are shipped off-site for treatment and disposal. There are no plans to develop hazardous-waste treatment and disposal facilities at the NTS under any of the alternatives. Mixed-waste (radioactive waste that contains some hazardous constituent) disposal is considered under Alternatives 1, 3 and 4. Alternatives 1 and 4 consider only Nevada-generated mixed waste whereas Alternative 3 includes the disposal of mixed waste generated off-site and at the NTS. Alternatives 3 and 4 contain plans for the development of mixed-waste treatment facilities to reduce the hazardous-constituent concentrations to environmentally safe levels, thereby meeting the requirements of the Resource Conservation Recovery Act prior to disposal.

Comment Code: Organization 1-17

Location of EIS Revision(s): None required

Response: The goal of the DOE's Environmental Restoration Program is to ensure that risks to the environment and to human health and safety, as posed by inactive and surplus facilities and sites, are either eliminated or reduced to safe levels. Safe levels are established by law and through consultation with appropriate federal and state regulatory authorities. In its environmental restoration activities, the DOE employs demonstrated remediation techniques and practices. In addition, the DOE's Environmental Restoration Program includes a technology development effort that considers new and evolving technologies with the potential to provide more effective and efficient cleanup of contaminated facilities and sites.

Comment Code: Organization 1-18

Location of EIS Revision(s): None required

Response: The DOE programs are approved and funded by the U.S. Congress. Neither the DOE nor its contractors may conduct activities not approved by Congress.

Comment Code: Organization 1-19

Location of EIS Revision(s): None required

Response: The intent of the Environmental Restoration Program is to characterize and remediate contaminated areas to protect human health and safety, and the environment. This program would continue in all alternatives except Alternative 2. Expanded use or alternate use of the NTS, as discussed in Alternatives 3 and 4 respectively, would not take place unless it has been determined through a detailed analysis of potential impacts to the environment, and an assessment of public and worker health and safety, that such risks have been mitigated to acceptable regulatory limits for the activities and land uses proposed.

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Comment Code: Organization 1-20

Location of EIS Revision(s): None required

Response: At present, the total area comprising the sites for which the DOE is responsible and upon which human access is restricted due to high levels of contamination represents a very small percentage of the NTS, Tonopah Test Range, and NAFR Complex. Through the Federal Facility Agreement and Consent Order process, the DOE and Defense Nuclear Agency, for their respective sites, will reach agreement with the state of Nevada regarding clean-up levels. The Corrective Action strategy outlined in the Federal Facility Agreement and Consent Order is that corrective action alternatives will be based on applicable regulatory standards or proposed clean-up levels if no standards apply. Proposed levels will be based on pertinent factors, including, but not limited to, assessment of risk, current and projected land use, resource management, and technical feasibility. Those areas which are determined through the Federal Facility Agreement and Consent Order process as potentially usable for recreational, educational, or industrial uses would be remediated to or below contamination levels deemed to be safe for the particular use identified.

Comment Code: Organization 1-21

Location of EIS Revision(s): None required

Response: The comment has been noted. Although the DOE policy recommends that the NTS EIS process take only 15 months, the NTS EIS has extended public comment periods and has held numerous public hearings and workshops to ensure an ample opportunity for public input in the National Environmental Policy Act process.

Comment Code: Organization 2-1

Location of EIS Revision(s): Volume 1, Appendix H

Response: Volume 1, Section 3.1.4.7, Figure 3-4 of this EIS identifies the areas that could potentially be turned back to the U.S. Bureau of Land Management for limited public use under Alternative 4. Several potential exposure scenarios were assessed and eliminated from further consideration, while other exposure scenarios were bounded by new analyses performed for the Final NTS EIS. These potential exposure scenarios considered health risks to the public from the following sources: (1) residual contamination on the land surface, (2) contaminated groundwater, and (3) future NTS activities proposed under Alternative 4.

Residual contamination on the land surface was eliminated as a potential exposure scenario because no contaminated land areas would be turned back to the U.S. Bureau of Land Management. Based on the groundwater modeling study performed by GeoTrans (1995b), potential turn back areas located south of Pahute Mesa could have groundwater contaminated with tritium above the drinking water limit of 20,000 pCi/L established by the U.S. Environmental Protection Agency. The DOE would not install a water supply well that was vulnerable to contamination, and the Nevada Bureau of Health Protection Services requires that any future water supply wells have groundwater vulnerability assessments performed before the well will be permitted as a public water supply.

Members of the public using the potential turn-back areas could potentially be impacted by NTS Waste Management activities at Areas 3 and 5 or by activities at the Spill Test Facility. Routine activities would be expected to have no impacts because all wastes disposed of or stored at Areas 3 and 5 are contained, and routine tests conducted at the Spill Test Facility are performed under controlled conditions when the wind is blowing away from the potential turn-back areas. The public could be impacted by potential accidents at the Waste Management Areas or the Spill Test Facility. Additional accident analyses have been performed for the Final NTS EIS which bound potential impacts to members of the public located in the potential turn-back areas.

Comment Code: Organization 2-2

Location of EIS Revision(s): None required

Response: The exposure scenarios suggested in the comment have been evaluated and addressed in the response to Comment Code Organization 2-1.

Comment Code: Organization 2-3

Location of EIS Revision(s): EIS Summary; Volume 1; Chapter 3, Table 3-5; Volume 1, Chapter 5, Sections 5.1, 5.1.1.11, 5.1.3.11, 5.1.4.11; Volume 1, Appendix H, and Executive Summary

Response: Appendix H of the Draft NTS EIS clearly identified the potential for tritium migration off the Project Shoal Area and Central Nevada Test Area sites. However, these results were not reflected in this EIS Summary. The NTS EIS Summary has been revised to reflect the potential for tritium migration from these sites. For underground test areas located within the NTS boundaries, the Draft NTS EIS identified no potential for tritium concentrations above the detection limit of 1 pCi/L outside areas currently under control of the DOE or the U.S. Air Force. The discussion of tritium migration from NTS test locations has been revised in the Final NTS EIS and includes discussion of earlier predictions by Daniels et al. (1993) and Andricevic et al. (1994) of potential tritium concentrations above the detection limit for a receptor in Oasis Valley.

Appendix H of this EIS has also been revised to present a more complete summary of the tritium migration studies performed for underground weapons test areas on the NTS, Project Shoal Area, and Central Nevada Test Area. The revised discussion addresses the uncertainties in the modeling results and presents results as a range of values representing the uncertainties in the analyses. The Summary, and Chapters 3 and 5 of this EIS have also been revised to more consistently reflect the information contained in Appendix H.

Comment Code: Organization 2-4

Location of EIS Revision(s): None required

Response: The Final NTS EIS addresses the uncertainties in the modeling of tritium migration from underground test locations. See response to Comment Code Organization 2-3.

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Comment Code: Organization 2-5

Location of EIS Revision(s): None required

Response: The Final NTS EIS provides a more complete summary of the tritium migration studies performed for underground test locations. See response to Comment Code Organization 2-3.

Comment Code: Organization 2-6

Location of EIS Revision(s): None required

Response: The Final NTS EIS addresses the uncertainties in the modeling of tritium migration from underground test locations. See response to Comment Code Organization 2-3.

Comment Code: Organization 2-7

Location of EIS Revision(s): None required

Response: The Final NTS EIS addresses the uncertainties in the modeling results and presents results as a range of values representing the uncertainties in the analyses. See response to Comment Code Organization 2-3.

Comment Code: Organization 2-8

Location of EIS Revision(s): Summary, Volume 1, Appendix H

Response: Earlier estimates of migration of tritium contaminated groundwater beyond the boundaries of the NTS and the U.S. Air Force controlled areas ranged from 890 pCi/L to 3,800 pCi/L at the nearest uncontrolled area boundary in Oasis Valley (Daniels et al., 1993). These results are higher than those estimated by GeoTrans (1995b) due to the preliminary, or screening, basis of the calculations performed by Daniels et al. For example, both studies base their source terms on shot cavity samples, but Daniels et al. assumed all groundwater at the source is contaminated to the highest observed tritium concentration of 7.6×10^9 pCi/L, while GeoTrans assumed an average groundwater concentration of tritium at the source of 1×10^9 pCi/L.

Other assumptions used by Daniels et al. were conservative, or worst case, estimates that would lead to somewhat higher concentration and risk estimates than the average case estimates used by GeoTrans. The GeoTrans estimates were made based on Environmental Restoration Project work-in-progress and will be refined and reported with estimated uncertainty in the future.

Modeling results to date consistently indicate no migration of tritium contamination at levels above EPA guidelines outside the current boundaries at the NTS and the U.S. Air Force controlled areas. Further, the most recent results from the Environmental Restoration Project predict no detectable tritium contamination above natural background levels outside controlled areas. For completeness, Volume 1, Appendix H of the Final NTS EIS has been revised to include discussion of the earlier predictions by Daniels et al. of potential migration of tritium above background levels at the nearest uncontrolled area boundary in Oasis Valley. The

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NTS EIS Summary has also been revised to reflect the expanded discussion of tritium migration studies contained in the Final NTS EIS, Appendix H.

Comment Code: Organization 2-9

Location of EIS Revision(s): Volume 1, Appendix H, Section 5.1

Response: The Final NTS EIS presents modeling results for all of the locations identified in Section 2.2.5.1 of Volume 1, Appendix H.

Comment Code: Organization 2-10

Location of EIS Revision(s): NTS EIS Summary, Volume 1, Appendix H

Response: The "no migration" statement has been modified in the Final NTS EIS. See response to Comment Code Organization 2-8.

Comment Code: Organization 2-11

Location of EIS Revision(s): Summary

Response: The NTS EIS Summary has been revised to reflect the expanded discussion of potential tritium migration off the NTS, Project Shoal Area, and Central Nevada Test Area sites as contained in the Final NTS EIS, Appendix H. This discussion includes the range of estimated impacts based on the uncertainties in key modeling parameters such as flow velocity and hydraulic conductivity.

Comment Code: Organization 2-12

Location of EIS Revision(s): None required

Response: The Final NTS EIS Summary discusses the potential for tritium migration off the Project Shoal Area and Central Nevada Test Area sites. See response to Comment Code Organization 2-11.

Comment Code: Organization 2-13

Location of EIS Revision(s): Summary

Response: The NTS EIS Summary has been revised to reflect the expanded discussion of potential tritium migration off the Central Nevada Test Area site as contained in the Final NTS EIS, Appendix H.

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Comment Code: Organization 2-14

Location of EIS Revision(s): Summary

Response: The NTS EIS Summary has been revised to reflect the expanded discussion of potential tritium migration off the Central Nevada Test Area site as contained in the Final NTS EIS, Appendix H.

Comment Code: Organization 2-15

Location of EIS Revision(s): Volume 1, Appendix H; Executive Summary and Section 5.1

Response: The Executive Summary of Appendix H has been revised to reflect the expanded discussion of potential tritium migration off the NTS, Project Shoal Area, and Central Nevada Test Area sites as contained in the Final NTS EIS, Appendix H, Section 5.1.

Comment Code: Organization 2-16

Location of EIS Revision(s): Volume 1, Appendix H; Executive Summary and Section 5.1

Response: See response to Comment Code Organization 2-15.

Comment Code: Organization 2-17

Location of EIS Revision(s): Volume 1, Appendix H; Section 2.2.5.1

Response: Section 2.2.5.1 of Volume 1, Appendix H, has been revised to provide more detail on development of the tritium source concentration used in the migration study for the NTS underground test locations. As described in GeoTrans (1995b), a compilation of maximum observed concentrations in test cavity samples (Daniels et al., 1993) indicates that the maximum observed concentration of tritium was 7.6×10^9 pCi/L. Other samples that have been collected had lower concentrations. For the GeoTrans (1995b) migration study, a source concentration of 1×10^9 pCi/L was assumed.

Comment Code: Organization 2-18

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 2-17.

Comment Code: Organization 2-19

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 2-17.

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Comment Code: Organization 2-20

Location of EIS Revision(s): Volume 1, Appendix H, Section 5.1

Response: Section 5.1 of Volume 1, Appendix H has been revised to provide a more complete discussion of the results for the three flow paths evaluated by GeoTrans (1995b) for the migration of tritium from test locations on Pahute Mesa and Yucca Flat.

Comment Code: Organization 2-21

Location of EIS Revision(s): Volume 1, Appendix H, Section 5.1

Response: Section 5.1 of Volume 1, Appendix H has been revised to provide a more complete discussion of the results for the three flow paths evaluated by GeoTrans (1995b) for the migration of tritium from test locations on Pahute Mesa and Yucca Flat.

Comment Code: Organization 2-22

Location of EIS Revision(s): Volume 1, Appendix H, Section 5.1

Response: Volume 1, Appendix H of the Final NTS EIS has been revised to include discussion of the earlier predictions by Daniels et al. (1993) of potential cancer fatality risk to a public receptor at the nearest uncontrolled area boundary in Oasis Valley. For additional discussion on this topic, please see response to Comment Code Organization 2-8.

Comment Code: Organization 2-23

Location of EIS Revision(s): Volume 1, Appendix H, Section 5.1

Response: The Final NTS EIS has been revised to include discussion of the earlier predictions by Daniels et al. (1993) of potential cancer fatality risk to a public receptor at the nearest uncontrolled area boundary in Oasis Valley. For additional discussion on this topic, please see the response to Comment Code Organization 2-8.

Comment Code: Organization 2-24

Location of EIS Revision(s): None required

Response: The document (GeoTrans, 1995b) containing the data and results for the MC-TRANS modeling of tritium migration from NTS underground test locations is available in public reading rooms that received a copy of the Draft NTS EIS. However, the results provided in GeoTrans (1995b) are in terms of tritium concentration and do not extrapolate the results to human health risk. Risk estimates were calculated from the concentrations reported by GeoTrans (1995b) using the equation listed in Attachment A of Appendix H. For

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the off-site test locations (Project Shoal and Central Nevada Test Area sites), details of the human health risk calculations can be found in Daniels et al. (1993).

Comment Code: Organization 2-25

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 2-24.

Comment Code: Organization 2-26

Location of EIS Revision(s): None required

Response: For the off-site test locations (Project Shoal and Central Nevada Test Areas), details of the human health risk calculations can be found in Daniels et al. (1993). See response to Comment Code Organization 2-24.

Comment Code: Organization 2-27

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 2-24.

Comment Code: Organization 2-28

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 2-24.

Comment Code: Organization 2-29

Location of EIS Revision(s): Volume 1, Appendix H, Section 2.2.5.2

Response: Section 2.2.5.2 of Volume 1, Appendix H has been revised to briefly describe the method used to calculate risks at the off-site locations (Project Shoal and Central Nevada Test Area sites).

Comment Code: Organization 2-30

Location of EIS Revision(s): Volume 1, Appendix H, Section 2.2.5.2

Response: Section 2.2.5.2 of Volume 1, Appendix H has been revised to briefly describe the method used to calculate risks at the off-site locations (Project Shoal and Central Nevada Test Area sites).

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Comment Code: Organization 2-31

Location of EIS Revision(s): Volume 1, Appendix H, Section 2.2.5.2

Response: Section 2.2.5.2 of Volume 1, Appendix H has been revised to briefly describe the method used to calculate risks at the off-site locations (Project Shoal and Central Nevada Test Area sites).

Comment Code: Organization 2-32

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 2-1.

Comment Code: Organization 2-33

Location of EIS Revision(s): None required

Response: The exposure scenarios suggested by the comment have been evaluated and addressed in the response to Comment Codes Organization 2-1 and Organization 2-32.

Comment Code: Organization 2-34

Location of EIS Revision(s): Volume 1, Appendix H, Section 5.1, Table 5-1

Response: Table 5-1 of Appendix H has been revised to present the range of calculated values from the Desert Research Institute reports for Project Shoal and Central Nevada Test Area sites. In addition, Table 5-1 has been revised to provide a more complete summary of the migration scenarios analyzed by GeoTrans for test locations within NTS boundaries. Corresponding changes have been made to the text discussions in Section 5.1 of Appendix H.

Comment Code: Organization 2-35

Location of EIS Revision(s): Volume 1, Appendix H, Section 5.1

Response: Volume 1, Appendix H of the Final NTS EIS has been revised to include discussion of the earlier predictions by Daniels et al. (1993) of potential cancer fatality risk to a public receptor at the nearest uncontrolled area boundary in Oasis Valley. For additional discussion on this topic, please see the response to Comment Code Organization 2-8.

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Comment Code: Organization 2-36

Location of EIS Revision(s): Volume 1, Appendix H, Section 5.1

Response: The Final NTS EIS has been revised to include discussion of the earlier predictions by Daniels et al. (1993) of potential cancer fatality risk to a public receptor at the nearest uncontrolled area boundary in Oasis Valley. For additional discussion on this topic, please see the response to Comment Code Organization 2-8.

Comment Code: Organization 2-37

Location of EIS Revision(s): Volume 1, Appendix H, Section 5.1

Response: Appendix H of this EIS has been revised to present a more complete summary of the tritium migration studies performed for underground weapons test areas on the NTS, Project Shoal Area, and Central Nevada Test Area. The revised discussion addresses the uncertainties in the modeling results and presents results as a range of values representing the uncertainties in the analyses.

Comment Code: Organization 2-38

Location of EIS Revision(s): Volume 1, Appendix H, Section 5.1

Response: See response to Comment Code Organization 2-37.

Comment Code: Organization 2-39

Location of EIS Revision(s): Volume 1, Appendix H, Section 5.1

Response: Section 5.1 of Volume 1, Appendix H has been revised to provide a more complete discussion of the results for the three flow paths evaluated by GeoTrans (1995b) for the migration of tritium from test locations on Pahute Mesa and Yucca Flat. Please see GeoTrans (1995a) for details on the framework for the parameters and calculations used in the study.

Comment Code: Organization 2-40

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 2-39.

Comment Code: Organization 2-41

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 2-39.

Comment Code: Organization 3-1

Location of EIS Revision(s): None required

Response: In this and subsequent comments, the commentor makes comparisons between the NTS EIS and the DOE Waste Management Programmatic EIS and points out various discrepancies. The types of differences that the commentor identifies are expected to occur because of the different purposes and scope of the two documents. The Waste Management Programmatic EIS is designed to establish a broad framework of reasonable alternatives for consideration by the public and DOE decisionmakers in support of broad programmatic decisions. Data used for analyses of this type by necessity often must be aggregated or summarized for consistent application. In contrast, the NTS EIS has a sitewide focus and can use data specific to the site. Also, broadly scoped programmatic EISs make more conservative assumptions to ensure that the range of possible alternatives across a complex array of DOE program activities are adequately bounded. As a result, the DOE would expect estimates of waste volumes and health risks in the Waste Management Programmatic EIS to be at least as high or higher than related estimates in sitewide or project-specific National Environmental Policy Act documentation. Other differences arise because the analyses presented in the NTS EIS assess the range of reasonably foreseeable activities at the NTS over the next 10 years, whereas the Waste Management Programmatic EIS is designed to support DOE programmatic decisions affecting DOE-wide waste management activities over the next 20 years. Given these differences, the DOE believes that the results are reasonably comparable. Refer to Section 1.12 of Volume 3.

Comment Code: Organization 3-2

Location of EIS Revision(s): None required

Response: Estimated health risks in the DOE Waste Management Programmatic EIS are expected to be higher than those estimated in the NTS EIS because of the more conservative assumptions made in the Waste Management Programmatic EIS. These types of assumptions are appropriate for a broadly scoped programmatic EIS that is used as the basis for broad programmatic decisions and should bound the results of sitewide EISs such as the NTS EIS (see response to Comment Code Organization 3-1).

For example, the incident-free transportation risk assessment for the Waste Management Programmatic EIS uses the RADTRAN 4 program which does not take credit for shielding of the public by automobiles and residential construction. The analysis performed for the NTS EIS accounts for this shielding effect, resulting in lower estimated doses and health effects. The Waste Management Programmatic EIS also assumes higher waste volumes transported over a 20-year time period, but the waste volumes presented in the NTS EIS are considered more representative of expected waste volumes coming to the NTS over the next 10 years.

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Comment Code: Organization 3-3

Location of EIS Revision(s): None required

Response: It is acknowledged that use of rail or intermodal transportation could be beneficial, in terms of both risk and cost, for off-site transportation. More evaluation would be required to determine the feasibility of a rail or intermodal transportation system.

The transportation of radioactive waste by rail was not evaluated, as an option in any of the alternatives in the NTS EIS, because there are no rail spurs that currently provide service to the NTS. However, Volume 1, Appendix I, Attachment F of this EIS provides a summary of the consideration related to rail spur development, use of truck/rail intermodal systems, and comparisons to the continued use of truck transportation systems.

Comment Code: Organization 3-4

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 3-1.

Comment Code: Organization 3-5

Location of EIS Revision(s): None required

Response: Refer to Comment Code Organization 3-1

Comment Code: Organization 3-6

Location of EIS Revision(s): None required

Response: The transportation risk results reported in the NTS EIS are valid only for the assumptions and volumes as given. If these volumes were to change, e.g., by adding a significant amount from ER activities, then the analysis would have to be revised to account for the larger volume in a separate National Environmental Policy Act evaluation.

Comment Code: Organization 3-7

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 3-2.

Comment Code: Organization 3-8

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 3-2.

Comment Code: Organization 3-9

Location of EIS Revision(s): None required

Response: The transportation of radioactive waste by rail is not evaluated as an option, in any of the alternatives in this EIS, because there are no rail spurs that currently provide service to the NTS. However, Volume 1, Appendix I, Attachment F of this EIS, provides a summary of the considerations related to rail spur development, use of truck/rail intermodal systems, and comparisons to the continued use of truck transportation systems.

Comment Code: Organization 3-10

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 3-9.

Comment Code: Organization 3-11

Location of EIS Revision(s): None required

Response: The U.S. Department of Transportation regulations do not impose restrictions on truck transportation that require trucks to travel across the Hoover Dam. Route selections are made in accordance with the U.S. Department of Transportation regulations (49 CFR 397.101[a]) which require the carrier to choose routes that would minimize radiological risk to the public. Rail transport is not likely to provide more discretion in route selection since access to mainline railways is limited in Southern Nevada, and these lines generally pass through major urbanized areas.

Comment Code: Organization 4-1

Location of EIS Revision(s): None required

Response: The referenced table is intended to present a summary of specific information contained in the discussions of geology, soils, hydrology, and air. The commentor is referred to each of those technical disciplines and the reference citations therein.

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Comment Code: Organization 4-2

Location of EIS Revision(s): None required

Response: Table 4-1 of Volume 1 is meant to provide summary information and, for brevity, cannot present the same level of data as the original inventory reports.

Comment Code: Organization 4-3

Location of EIS Revision(s): None required

Response: The referenced table presents information on the major radionuclides based upon the information presented in a more recent study, McArthur (1991). Data were provided for the nine mentioned radioisotopes. Where this author reported the concentration of a radionuclide as zero, it was not included in Table 4-1, so the table is complete.

Comment Code: Organization 4-4

Location of EIS Revision(s): Volume 1, Chapter 4, Section 4.1.4.2

Response: The information concerning Sedan is presented in McArthur (1991) has been included in Chapter 4. According to this information, the Sedan total activity in Area 10 is 327.9 curies which was the source of the value presented in this EIS. According to this table, the total activity for Area 10 is 364.9 curies. If the Sedan-related contamination in Area 2 is considered, then the total contamination for Sedan is 344 curies. The text of this EIS has been changed to reflect this higher number.

Comment Code: Organization 4-5

Location of EIS Revision(s): Volume 1, Chapter 4, Section 4.1.4.2

Response: The DOE agrees, and the sentence has been deleted.

Comment Code: Organization 4-6

Location of EIS Revision(s): Volume 1, Chapter 4, Section 4.1.4.2

Response: Additional information concerning the source term has been incorporated in this EIS. It is worth noting that Borg et al. (1976) remains a thorough, readable, and authoritative reference on the subject of underground migration of radionuclides.

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Comment Code: Organization 4-7

Location of EIS Revision(s): Volume 1, Chapter 4, Section 4.1.4.2

Response: The subject section was not based upon Borg et al. (1976). Rather, a more rigorous approach was used where each radionuclide was calculated using weapon design and performance data from Lawrence Livermore and Los Alamos National Laboratories. The text has been revised to provide additional information based on their estimates.

Comment Code: Organization 4-8

Location of EIS Revision(s): Volume 1, Chapter 4, Section 4.1.4.2

Response: The intent of the discussion is to provide a basis for comparison between different media for the remaining radioactivity at the NTS. The presentation of a lower bounding value is considered adequate for the purposes of this EIS.

The examples from Borg et al. (1976) were provided to show the magnitude of the radiological source term at the time of the detonation and the effect of decay of short-lived radionuclides. Additional details about the methodology used to estimate the radionuclide inventory, including fission and fusion contributions, were added to the text.

Comment Code: Organization 4-9

Location of EIS Revision(s): Volume 1, Chapter 4, Section 4.1.4.2

Response: Clarifying text has been added to the NTS EIS.

Comment Code: Organization 4-10

Location of EIS Revision(s): None required

Response: Borg et al. (1976) was not used alone to develop the estimates. Clarifying text has been added in response to other comments. Please refer to the response under Comment Code Organization 4-7 for additional discussion.

Comment Code: Organization 4-11

Location of EIS Revision(s): Volume 1, Chapter 4, Section 4.1.4.2

Response: Clarifying text has been added per Comment Code Organization 4-9.

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Comment Code: Organization 4-12

Location of EIS Revision(s): None required

Response: While some classified materials were used that preclude the discussion of some of the underlying values, the overall estimate was not conducted in a "secretive nature." As was discussed for previous comments, Borg et al. (1976) was not the source of the estimates.

While the DOE is actively attempting to declassify additional source term data, some information will remain classified because of its relevance to weapons design and performance. The DOE is allowing representatives of the Nevada Division of Environmental Protection and the Harry Reid Center for Environmental Studies to study the classified data to dispel negative perceptions of the "secretive nature" of the process.

Comment Code: Organization 4-13

Location of EIS Revision(s): Volume 1, Chapter 4, Section 4.1.4.2

Response: The Benjamin memorandum (Benjamin, 1995) was the source of the information presented in Table 4-27 of the NTS EIS, and the reference was added to the discussion. The original source reference and methodology has been added to the text of this EIS.

Comment Code: Organization 4-14

Location of EIS Revision(s): Volume 1, Chapter 4, Section 4.1.4.2

Response: The date has been corrected.

Comment Code: Organization 4-15

Location of EIS Revision(s): Volume 1, Chapter 4, Section 4.1.4.2 and 4.1.5.2

Response: The text has been modified as suggested by the commentor.

Comment Code: Organization 4-16

Location of EIS Revision(s): Volume 1, Chapter 4, Section 4.8

Response: The text has been revised and appropriate references added to Section 4.8.

Comment Code: Organization 4-17

Location of EIS Revision(s): Volume 1, Chapter 4, Section 4.8

Response: The text has been revised and appropriate references added to Section 4.8.

Comment Code: Organization 4-18

Location of EIS Revision(s): Volume 1, Chapter 4, Table 4-28

Response: Table 4-28 has been modified as suggested by the commentor.

Comment Code: Organization 4-19

Location of EIS Revision(s): Volume 1, Chapter 4, Section 4.8

Response: Thallium has been added to Table 4-28.

Comment Code: Organization 4-20

Location of EIS Revision(s): Volume 1, Appendix H, Executive Summary and Section 5.1

Response: The Executive Summary of Appendix H has been revised to reflect the expanded discussion of potential tritium migration off the NTS, the Project Shoal Area, and the Central Nevada Test Area sites as contained in the Final NTS EIS, Appendix H, Section 5.1

Comment Code: Organization 4-21

Location of EIS Revision(s): Volume 1, Appendix H, Executive Summary and Section 5.1

Response: Volume 1, Appendix H of the Final NTS EIS has been revised to reflect the range of estimated impacts based on the uncertainties in key modeling parameters used in the various studies of potential tritium migration off the NTS, Project Shoal Area, and Central Nevada Test Area sites.

Comment Code: Organization 4-22

Location of EIS Revision(s): None required

Response: The assumption that Appendix H assesses human health risks and safety impacts only over a ten-year period is not correct. The activities evaluated under this EIS alternatives are those that can be foreseen to occur over a 10-year period. The most risk-dominant impacts, such as occupational injuries and fatalities, would be expected to coincide with the 10-year timeframe of activities evaluated in this EIS. However, some impacts from NTS activities may occur beyond the 10-year timeframe of this EIS. For example, accidental

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inhalation of plutonium by a worker could result in a long-term committed dose to the individual, and an increase in the worker's lifetime risk of contracting fatal cancer or other detrimental health effects. These detrimental health effects, if they actually developed in the individual, would most likely have a delayed onset beyond the 10-year timeframe of activities evaluated in this EIS. These delayed health effects are estimated and reported in this EIS even though they are not expected to occur within the 10-year timeframe of activities evaluated in this EIS.

Comment Code: Organization 4-23

Location of EIS Revision(s): Volume 1, Appendix H

Response: Volume 1, Section 3.1.4.7, Figure 3-4 of the NTS EIS identifies the areas that could potentially be turned back to the U.S. Bureau of Land Management for limited public use under Alternative 4. Several potential exposure scenarios were assessed and eliminated from further consideration, while other exposure scenarios were bounded by new analyses performed for the Final NTS EIS. These potential exposure scenarios considered health risks to the public from the following sources: (1) residual contamination on the land surface, (2) contaminated groundwater, and (3) future NTS activities proposed under Alternative 4.

Residual contamination on the land surface was eliminated as a potential exposure scenario because no contaminated land areas would be turned back to the U.S. Bureau of Land Management. Based on the groundwater modeling study performed by GeoTrans (1995b), potential turn back areas located south of Pahute Mesa could have groundwater contaminated with tritium above the drinking water limit of 20,000 pCi/L established by the U.S. Environmental Protection Agency. The DOE would not install a water supply well that was vulnerable to contamination, and the Nevada Bureau of Health Protection Services requires that any future water supply wells have groundwater vulnerability assessments performed before the well will be permitted as a public water supply.

Members of the public using the potential turn-back areas could potentially be impacted by NTS Waste Management activities at Areas 3 and 5 or by activities at the Spill Test Facility. Routine activities would be expected to have no impact because all wastes disposed of or stored at Areas 3 and 5 are contained, and routine tests conducted at the Spill Test Facility are performed under controlled conditions when the wind is blowing away from the potential turn-back areas. The public could be impacted by potential accidents at the Waste Management Areas or the Spill Test Facility. Additional accident analyses have been performed for the Final NTS EIS which bound potential impacts to members of the public located in the potential turn-back areas.

Comment Code: Organization 4-24

Location of EIS Revision(s): None required

Response: Section 1.3 of Appendix H correctly states its purpose to provide an assessment of human health risks and safety impacts associated with all of the alternatives considered in the NTS EIS. The comment refers to concerns raised in Comment Code Organization 4-23 that this EIS does not evaluate public exposure scenarios in released-land scenarios under Alternative 4. Potential exposure scenarios associated with use of NTS lands turned back for limited public use under Alternative 4 have been assessed (see the response to Comment Code Organization 4-23).

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The comment is incorrect in assuming that Appendix H assesses human health risks and safety impacts only over a 10-year period. See the response to Comment Code Organization 4-22 for the detailed response to this comment.

Comment Code: Organization 4-25

Location of EIS Revision(s): Volume 1, Appendix H, Section 2.1

Response: The comment is correct. The lead sentence in Section 2.1, Volume 1, Appendix H, has been revised to include the component of "exposure" in the general concept of risk assessment.

Comment Code: Organization 4-26

Location of EIS Revision(s): Volume 1, Appendix H, Section 2.1.2.1

Response: The purpose of Section 2.1.2.1, Volume 1, Appendix H, is to explain basic concepts on the origin and types of ionizing radiation. Fission is included because it is an important process that produces ionizing radiation. The comment contains several suggestions which have been incorporated into Section 2.1.2.1. The discussion of the fission process has been revised to make it more relevant to activities at the NTS, and a discussion of the fusion process has also been added. The title of Section 2.1.2.1 has been revised to be representative of the revised subject matter.

Comment Code: Organization 4-27

Location of EIS Revision(s): Volume 1, Appendix H, Section 2.1.2.1

Response: The discussion of the fission process in Section 2.1.2.1, Volume 1, Appendix H, has been revised to make it more relevant to activities at the NTS.

Comment Code: Organization 4-28

Location of EIS Revision(s): Volume 1, Appendix H, Section 2.1.2.1

Response: A discussion of the fusion process has been added to Section 2.1.2.1, Volume 1, Appendix H, as suggested by the comment.

Comment Code: Organization 4-29

Location of EIS Revision(s): Volume 1, Appendix H, Section 2.1.2.1

Response: A discussion of the fusion process has been added to Section 2.1.2.1, Volume 1, Appendix H, as suggested by the comment.

Comment Code: Organization 4-30

Location of EIS Revision(s): Volume 1, Appendix H, Section 2.1.2.1

Response: A discussion of the fusion process has been added to Section 2.1.2.1, Volume 1, Appendix H, as suggested by the comment.

Comment Code: Organization 4-31

Location of EIS Revision(s): Volume 1, Appendix H, Section 2.2.3

Response: Units for worker collective dose have been changed from "rem" to "person-rem" as suggested by the comment.

Comment Code: Organization 4-32

Location of EIS Revision(s): None required

Response: The document (GeoTrans, 1995b) containing the data and results for the MC-TRANS modeling of tritium migration from NTS underground test locations is available in public reading rooms that received a copy of the Draft NTS EIS. The DOE confirmed that this reference was indeed in the public reading room on Losee Road in North Las Vegas. In addition, the DOE sent the commentor a copy directly. However, the results provided in GeoTrans (1995b) are in terms of tritium concentration and do not extrapolate the results to human health risk. Risk estimates were calculated from the concentrations reported by GeoTrans (1995b) using the equation listed in Attachment A of Appendix H. For the off-site test locations (Project Shoal and Central Nevada Test Area sites), details of the human health risk calculations can be found in Daniels et al. (1993).

Comment Code: Organization 4-33

Location of EIS Revision(s): Volume 1, Appendix H, Section 7

Response: The reference citation for Daniels et al. (1993) has been added to Section 7, Volume 1, Appendix H.

Comment Code: Organization 4-34

Location of EIS Revision(s): Volume 1, Appendix H, Section 2.2.5.1

Response: The tritium concentration of 1×10^9 pCi/L is the source concentration assumed by GeoTrans in their modeling of tritium migration from test locations within the NTS boundaries. The referenced citation has been added to the text of Section 2.2.5.1, Volume 1, Appendix H.

Comment Code: Organization 4-35

Location of EIS Revision(s): Volume 1, Appendix H, Section 2.2.5.1

Response: Section 2.2.5.1, Volume 1, Appendix H, has been revised to provide more detail on development of the tritium source concentration used in the migration study for the NTS underground test locations. As described in GeoTrans (1995b) a compilation of maximum observed concentrations in test cavity samples (Daniels et al., 1993) indicates that the maximum observed concentrations of tritium was 7.6×10^9 pCi/L. Other samples that have been collected had lower concentrations. For the GeoTrans (1995b) migration study, a source concentration of 1×10^9 pCi/L was assumed. The difference in the source term used in the model will have very little impact on the outcome or the estimated risk presented in the health study.

Comment Code: Organization 4-36

Location of EIS Revision(s): Volume 1, Appendix H, Section 5.1

Response: Earlier estimates of potential cancer fatality risk to a public receptor at the nearest uncontrolled area boundary in Oasis Valley ranged from 7×10^{-7} to 1×10^{-5} (Daniels et al., 1993). These results are higher than those estimated by GeoTrans (1995b) due to the preliminary, or screening, basis of the calculations performed by Daniels et al. (1993). For example, both studies base their source terms on shot cavity samples, but Daniels et al. (1993) assumed all groundwater at the source is contaminated to the highest observed tritium concentration of 7.6×10^9 pCi/L, while GeoTrans assumed an average groundwater concentration of tritium at the source of 1×10^9 pCi/L. Other assumptions used by Daniels et al. (1993) were conservative, or worst case estimates that would lead to somewhat higher concentration and risk estimates than the average case estimates used by GeoTrans. The GeoTrans estimates were made based on Environmental Restoration project work-in-progress, and will be refined and reported with estimated uncertainty in the future.

Volume 1, Appendix H of the Final NTS EIS has been revised to include discussion of the earlier predictions by Daniels et al. (1993) of potential cancer fatality risk to a public receptor at the nearest uncontrolled area boundary in Oasis Valley.

Comment Code: Organization 4-37

Location of EIS Revision(s): Volume 1, Appendix H, Section 4.2

Response: The consumption of tritium contaminated drinking water by the public is a future scenario that is not expected to have impacts within the 10-year timeframe of this EIS. This statement is based on the fact that tritium is not currently detectable above natural background levels in any existing public well near the NTS, Project Shoal Area, or Central Nevada Test Area boundaries. The statement is further supported by groundwater modeling results for the NTS, Project Shoal Area, and Central Nevada Test Area which show that tritium from test locations is not expected to be detectable at any existing public wells within the 10-year timeframe of the NTS EIS, with the possible exception of the first public well off the western boundary of the Project Shoal Area. At the nearest western well from the Project Shoal boundary area, predictions made by Chapman et al. (1995) estimate a range of tritium concentrations from less than 1×10^{-5} pCi/L to about 9,000 pCi/L, depending on uncertainties in the modeling parameters, during the 10-year period of this EIS (1996 to 2006). Nevertheless, this EIS assesses these potential health risks even though the impact is not

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expected to occur until future years, if ever. The sentence in Section 4.2, Volume 1, Appendix H, has been revised to state that impacts from this exposure scenario are not expected to occur within the 10-year timeframe of this EIS.

Comment Code: Organization 4-38

Location of EIS Revision(s): Volume 1, Appendix H, Table 5-1

Response: Table 5-1, Volume 1, Appendix H, has been revised to show that the peak tritium concentration was predicted to have crossed the boundary of the Central Nevada Test Area 8 to 15 years after the underground test date.

Comment Code: Organization 4-39

Location of EIS Revision(s): None required

Response: The comment disagrees with the statement that there is no expected impact to the public from tritium-contaminated groundwater during the 10-year timeframe evaluated in the NTS EIS. Please see the response to Comment Code Organization 4-37.

Comment Code: Organization 4-40

Location of EIS Revision(s): Volume 1, Appendix H, Section 5.1, Table 5-1 and text

Response: Table 5-1 of Appendix H has been revised to present the range of calculated values from the Desert Research Institute reports for the Project Shoal Area and Central Nevada Test Area. In addition, Table 5-1 has been revised to provide a more complete summary of the migration scenarios analyzed by GeoTrans for test locations within NTS boundaries. Corresponding changes have been made to the text discussions in Section 5.1.

Comment Code: Organization 4-41

Location of EIS Revision(s): Volume 1, Appendix H, Section 5.1, Table 5-1

Response: In the Final NTS EIS, data values in Table 5-1 of Volume 1, Appendix H, are reported with the same number of significant figures as used in the original author's reports.

Comment Code: Organization 4-42

Location of EIS Revision(s): Volume 1, Appendix H, Section 5.1

Response: Section 5.1 of Volume 1, Appendix H has been revised to provide a more complete discussion of the results for the three flow paths evaluated by GeoTrans (1995b) for the migration of tritium from test

locations on Pahute Mesa and Yucca Flat. In addition, Appendix H has been revised to include discussion of the earlier predictions by Daniels et al. (1993) of potential cancer fatality risk to a public receptor at the nearest uncontrolled area boundary in Oasis Valley.

Comment Code: Organization 4-43

Location of EIS Revision(s): None required

Response: The risk values presented in the NTS EIS are incremental risks above natural background levels. It is not the purpose of this EIS to establish screening levels for "significance," but rather, this EIS presents an assessment of risks, in addition to impacts and consequences, to inform the public, and to serve as a decisionmaking tool for the DOE. By their review of the results presented in this EIS, the public and DOE decisionmakers can form their own conclusions as to the significance of the results.

Regarding the Linear, No-Threshold Dose-Response Curve, the health risk factors used in this EIS are recommended by the International Commission on Radiological Protection (ICRP, 1991) and assume that for stochastic effects, such as latent cancer fatality, the risk of contracting the health effect is a linear function of the dose. The Linear, No-Threshold Dose-Response model is not the only model proposed by the scientific community to estimate health effects from low-levels of radiation, but it is the model currently adopted by all national and international agencies responsible for establishment of radiation protection standards used in the United States. Use of the International Commission on Radiological Protection risk factors is also consistent with DOE internal guidance on the preparation of Environmental Impact Statements (DOE, 1993b).

Comment Code: Organization 4-44

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 4-43.

Comment Code: Organization 4-45

Location of EIS Revision(s): None required

Response: The NTS EIS estimates human health risks based on the current recommendations of the International Commission on Radiological Protection (ICRP, 1991). See responses to Comment Code Organization 4-43.

Comment Code: Organization 4-46

Location of EIS Revision(s): None required

Response: The risk values presented in this EIS are incremental risks above natural background levels. See response to Comment Code Organization 4-43.

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Comment Code: Organization 4-47

Location of EIS Revision(s): None required

Response: The risk values presented in this EIS are incremental risks above natural background levels. See response to Comment Code Organization 4-43.

Comment Code: Organization 4-48

Location of EIS Revision(s): None required

Response: The authors of the tritium migration study for the Central Nevada Test Area (Chapman et al., 1995) performed their assessment of human health risks based on a 70-year time period around the time of peak tritium concentration at various locations. This approach was intended to assess maximum potential health risks to human receptors at these locations. In the case of a hypothetical receptor at the Central Nevada Test Area boundary, where no public well currently exists, the peak tritium concentration was predicted to occur 8 to 15 years after the Project Faultless Test. Since the Project Faultless Test was conducted in 1968, the peak tritium concentration is predicted to have passed the Central Nevada Test Area boundary between the years 1976 and 1983.

The comment is correct about the need to consider radioactive decay in the evaluation of these modeling results. The effects of radioactive decay since 1983 are discussed in the text of Section 5.1 of Appendix H. By the year 1996, radioactive decay would result in at least a 50 percent reduction in the predicted peak tritium concentration, and additional reduction would be expected from diffusion within the aquifer.

Comment Code: Organization 4-49

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 4-22.

Comment Code: Organization 4-50

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 4-22.

Comment Code: Organization 4-51

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 4-22.

Comment Code: Organization 4-52

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 4-22.

Comment Code: Organization 4-53

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 4-22.

Comment Code: Organization 4-54

Location of EIS Revision(s): Volume 1, Appendix H, Section 5.3

Response: The dose of 281 rem reported in Section 5.3 of the Draft NTS EIS is a 50-year committed dose to a hypothetical exposed worker from inhalation of plutonium. The dose rate effectiveness factors, Φ_e and Φ_d , listed on Page B-3 of Appendix H were not used in this calculation. Less than 5 percent of the 50-year committed dose, about 12 rem, would occur in the first year after exposure. The first year dose would not be considered an acute dose, and no acute health effects would be expected. However, for stochastic effects, such as latent cancer fatality, the International Commission on Radiological Protection (ICRP, 1991) recommends that the risk factors be doubled for individual doses greater than 20 rem or dose rates greater than 10 rem per hour. In this instance, based on the 50-year committed dose of 281 rem, the individual would have an increased lifetime probability of 0.22 (about 1 in 4) of contracting a fatal cancer and an increased lifetime probability of 0.09 (about 1 in 11) of contracting any other detrimental health effect. The Final NTS EIS has been revised to account for the higher estimated health risks when individual doses exceed 20 rem or when dose rates exceed 10 rem per hour.

Comment Code: Organization 4-55

Location of EIS Revision(s): Volume 1, Appendix H, Section 6

Response: Section 6 of Volume 1, Appendix H has been revised as suggested by the comment.

Comment Code: Organization 4-56

Location of EIS Revision(s): Volume 1, Appendix H, Executive Summary and Section 5.1

Response: The potential for migration of tritium-contaminated groundwater off the boundaries of the DOE and the U.S. Air Force controlled areas has been addressed in response to previous comments. See responses for Comment Codes Organization 4-20 and 4-42.

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Comment Code: Organization 4-57

Location of EIS Revision(s): Volume 1, Appendix H

Response: The comment is correct. However, the Dose and Dose Rate Effectiveness Factor only applies to doses greater than 20 rem or dose rates greater than 10 rem per hours. The only calculation that was affected by this factor in the Draft NTS EIS was the Maximum Reasonably Foreseeable Accident at the Device Assembly Facility. The comment is correct that the Dose and Dose Rate Effectiveness Factor recommended by the International Commission on Radiological Protection is 2. See response to Comment Code Organization 4-54.

Comment Code: Organization 4-58

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 4-43.

Comment Code: Organization 4-59

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 4-43.

Comment Code: Organization 5-1

Location of EIS Revision(s): None required

Response: The underground testing program has a Presidential mandate to maintain the ability to conduct nuclear tests, if directed to do so. The science-based Stockpile Stewardship Program enables the DOE and its national laboratories to exercise elements necessary to maintain that ability. Activities such as the subcritical experiments discussed in Volume 1, Section 2.4.1 also enable the DOE to exercise some elements necessary to maintain the ability to conduct nuclear testing in the future.

Additional discussion of policy considerations may be found in Section 2.2 of this EIS. Section 3.1.1.1 is a discussion of Defense Program activities under Alternative 1, and Section 3.1.3.1 is a discussion of Defense Program activities under Alternative 3.

Comment Code: Organization 5-2

Location of EIS Revision(s): None required

Response: No long-term storage of plutonium is required at the NTS to conduct underground tests. Special nuclear material is shipped to the NTS and staged just prior to the need to prepare the test package. The

amount of special nuclear material required would vary from test to test and the precise number is classified. However, normally several kilograms would be involved.

Comment Code: Organization 5-3

Location of EIS Revision(s): None required

Response: The primary criteria for selecting an emplacement hole from the inventory are yield and containment. There are presently 33 emplacement holes in the inventory with only one extending below the aquifer. It is configured with a steel liner. The DOE would not use this hole unless all other options were deemed unsuitable.

Comment Code: Organization 5-4

Location of EIS Revision(s): None required

Response: The aquifer of concern for underground testing is the Volcanic Aquifer. The policy of the DOE/NV requires a hydrologic review of the impact of the working point on groundwater. The DOE attempts to establish working points as far above the watertable as possible consistent with containment of atmospheric releases to minimize possible contamination of that aquifer.

As stated in Section 5.5.1.1, "However, some groundwater might be unavoidably contaminated if the shot cavity is below or intercepts the water table."

Comment Code: Organization 5-5

Location of EIS Revision(s): None required

Response: No testing that can result in a nuclear yield is performed at the Tonopah Test Range. There is extensive security for special nuclear material protection. No tests are performed at the Tonopah Test Range that could result in the release of special nuclear material off range.

Comment Code: Organization 5-6

Location of EIS Revision(s): None required

Response: A method of destruction of a damaged nuclear weapon is through sympathetic detonation underground. Presidential direction would be required to implement such a procedure.

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Comment Code: Organization 5-7

Location of EIS Revision(s): None required

Response: The Community Advisory Board can have a presentation of the Greater Confinement Disposal Program at any of the regularly scheduled monthly meetings of the full board. Please contact the Assistant Manager for Environmental Management point-of-contact for the Community Advisory Board to coordinate the schedule.

Comment Code: Organization 5-8

Location of EIS Revision(s): None required

Response: There are three documents which describe the analysis and adoption of this concept. They are *Proceedings of the Third Annual Information Meeting DOE Low-Level Waste Management Program* (ORNL, 1981) in an article named "The Criteria and Technical Concept for Demonstrating Greater Confinement Disposal of Radioactive Wastes at Arid Western Sites" (Hunter, 1981), Document Number ORNL/NFW-81/34; *Documentation of Greater Confinement Disposal Technology: 1981-1982*, DOE/NV-10253-6 (DOE/NV, 1982a); and *Comparative Assessment of Disposal of TRU Waste in a Greater Confinement Disposal Facility*, DOE/NV-00410-68 (DOE/NV, 1982b). Copies of these documents can be obtained by the Community Advisory Board by contacting the Assistant Manager for Environmental Management point-of-contact.

Comment Code: Organization 5-9

Location of EIS Revision(s): None required

Response: At present, the DOE is not in possession of greater-than-Class C waste. There has not been a determination of the total volume of greater-than-Class C waste for which the DOE will ultimately be responsible, nor has there been a determination of the final disposal configuration. It would be premature to state that boreholes would be used or to indicate the number or type of disposal cells that would be required. Refer to Volume 3, Section 1.12.

Comment Code: Organization 5-10

Location of EIS Revision(s): None required

Response: The Yucca Mountain repository is being considered along with other possible disposal sites.

Comment Code: Organization 5-11

Location of EIS Revision(s): None required

Response: The commentor is referred to Section 1.12 of Volume 3 for a discussion of greater-than-Class C waste. The DOE has been educating stakeholders through its public outreach meetings and has offered

training on many subjects, including the types of classes of radioactive waste. If the Community Advisory Board is interested in having a presentation about the classes of waste, they should contact the Assistant Manager for Environmental Management point-of-contact for the Community Advisory Board.

Community Code: Organization 5-12

Location of EIS Revision(s): None required

Response: The DOE will continue to brief the Community Advisory Board, receive and consider its input, and provide feedback as to the disposition of Community Advisory Board input. Additionally, the Federal Facility Agreement and Consent Order (state of Nevada, 1996) requires that the DOE receive and consider Community Advisory Board input in the prioritization process. For example, Part XVII, Public Involvement, of the Federal Facility Agreement and Consent Order calls for a Public Involvement Plan which "shall contain a mechanism for actively seeking public input (including input from the Community Advisory Board), concerning the DOE and DoD activities undertaken pursuant to this agreement." Similarly, other stakeholders will be kept apprised and have the opportunity to provide input and receive feedback. The DOE will continue to hold prioritization workshops for the Community Advisory Board and the results will be forwarded to the Internal Review Board for consideration.

The DOE commits to considering all relevant stakeholder input, along with the other factors listed in the sidebar in Section 2.4.3 of this EIS, in the prioritization process. Stakeholder input, while very important, is but one of the factors the DOE and its regulators will use in meeting their responsibilities to formulate prioritization of the Environmental Restoration Program activities.

Comment Code: Organization 5-13

Location of EIS Revision(s): None required

Response: The current fiscal year funding for the Defense Nuclear Agency's environmental restoration program is \$300,000. FY 1997 funding is planned to be \$1 million, FY 1998 funding is planned to be \$2 million, and FY 1999 funding is expected to reach \$5 million and remain at that level into the foreseeable future.

The Defense Nuclear Agency is signatory to the Federal Facility Agreement and Consent Order and will follow the process outlined in the agreement in prioritization of projects. The factors listed in this EIS in the sidebar in Section 2.4.3 of Volume 1, would be considered by the Defense Nuclear Agency, in conjunction with the state of Nevada, in completing its priority list.

Comment Code: Organization 5-14

Location of EIS Revisions(s): Volume 1, Chapter 2, Section 2.5.6.1.

Response: The performance assessment for Area 5 has been delayed until January 1997 because of the revisions requested by the DOE Headquarter's Peer Review Panel. The DOE is scheduled to provide a presentation to the Community Advisory Board in June 1996.

Comment Code: Organization 5-15

Location of EIS Revision(s): None required

Response: The performance assessment for the Area 3 Radioactive Waste Management Site is still scheduled to be delivered to the DOE Headquarters in March 1998. When the document is revised and finalized for submission to DOE Headquarters for approval, a briefing can be made to the Community Advisory Board and copies can be distributed to the members. Please contact the Assistant Manager for Environmental Management point-of-contact for the Community Advisory Board to arrange this briefing.

Comment Code: Organization 5-16

Location of EIS Revision(s): None required

Response: The NTS boundary lines shown in Figure 3-1 includes those areas withdrawn specifically for use by the DOE through Public Land Orders: 805, 2568, and 3759, as shown in Chapter 4 of the NTS EIS. Lands withdrawn under Public Land Order 1662 are managed by the DoD for their ongoing operations and are not considered in this EIS for any alternative by the DOE.

Comment Code: Organization 5-17

Location of EIS Revision(s): None required

Response: Reserved zones on the NTS are explained in Chapter 3 under Alternatives 1, 3, and 4. These zones provide flexible support for testing, training, and experimentation. These zones are designated by the DOE.

Comment Code: Organization 5-18

Location of EIS Revision(s): None required

Response: This comment appears to apply to Summary Table S-3, "Summary comparison of environmental impacts of the alternative," in the Draft NTS EIS. For the time period which is evaluated in this EIS, an additional 0.0116 percent of the NTS may be disturbed with the continuation of ongoing low-level waste management activities. This percentage, which represents approximately 34 acres of new disturbance, is considered to be a small amount, especially when compared to other land disturbing projects occurring elsewhere in southern Nevada. Much of the 34 acres would be removed from future use and would be irreversibly impacted by disposal operations. Some of the area used for storage prior to disposal could be restored and reused. No impact to groundwater resources is anticipated from waste storage and disposal activities.

Comment Code: Organization 5-19

Location of EIS Revision(s): Summary, Table S-3

Response: The approximated values provided in Table S-3 represent the volume of waste to be disposed of at the NTS under each of the four alternatives. The numbers in Table S-3 have been revised based on more accurate estimate information and consistency checks between the various sections of the NTS EIS. The number of shipments correlating to these waste volumes can be found in Chapter 5, Environmental Consequences, Table 5.1-5 for Alternative 1, Table 5.3-5 for Alternative 3, and Appendix I, Transportation Study. The number of waste shipments have been revised in the Final NTS EIS to correlate with the new estimates; however, the total number of waste shipments is similar to the original information provided.

Comment Code: Organization 5-20

Location of EIS Revision(s): Summary, Table S-3

Response: The numbers in Table S-3 have been revised based on more accurate estimate information and consistency checks between the various sections of the NTS EIS.

Comment Code: Organization 5-21

Location of EIS Revision(s): None required

Response: There has been an increase in the amount of environmental restoration waste that is sent to commercial facilities for disposal. An increasing amount of waste is being disposed of on the restoration sites. Although this has reduced the amount of DOE environmental restoration waste that could be expected to be disposed of at the NTS, it is reasonable to assume that some environmental restoration waste will continue to be shipped to the NTS for disposal. Under Alternative 1, environmental restoration wastes can be assumed to be shipped to the NTS from off-site, out-of-state locations at the same rate as has been the case in recent years. Waste shipped to the NTS from restoration sites within the state of Nevada can be assumed to increase in volume and number of shipments under Alternative 1.

Comment Code: Organization 5-22

Location of EIS Revision(s): Summary Table S-3 and Volume 1, Chapter 3, Table 3-5

Response: The statement is intended to mean that activities conducted or proposed to be conducted at the NTS or other locations would not influence the land uses in proximity to the sites identified.

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Comment Number: Organization 5-23

Location of EIS Revision(s): None required

Response: When an EIS is prepared and economic, social, natural, or physical effects are interrelated, the NTS EIS must discuss these effects on the human environment. For example, considerable expansion of DOE activities could cause an increase in employment which, in turn, may cause additional employee traffic, that results, perhaps in a reduction in air quality. Unemployment, personal income, and housing demand are also analyzed in the same way.

As stated in the text, this EIS analyzes 10 years of activities. For example, in Chapter 5 the economic-demographic conditions of southern Nevada under Alternative 1 are presented for several benchmark years. Specifically, the employment of the NTS in the year 2005 is projected to be 6,576 or 1 percent of Clark County. This direct employment level would generate 12,516 secondary jobs. Furthermore, this direct employment would result in approximately 323 million dollars in personal income while the secondary earnings would be 339 million dollars.

Comment Code: Organization 5-24

Location of EIS Revision(s): None required

Response: The discussion upon which these statements in Summary of Environmental Impact of the Alternatives, Table 3-5, are based is located in Section 5.1.1.5.2. The total effects from the anticipated groundwater withdrawals under Alternative 1 are expected to be minor because the total quantity of water that will be used does not exceed historic pumping rates for the NTS. As noted in the discussion in Chapter 5, the impacts are expected to be limited to the localized lowering of water levels in the vicinity of the water supply wells. No off-site impacts are anticipated. It is indeed possible to extract more water from Yucca Flat than the perennial yield of the basin. This concept is referred to as groundwater mining, i.e., groundwater is removed from storage. Groundwater mining is not uncommon in developed portions of Nevada, for example, in 1994 more than 8.39×10^7 cubic meters (m^3) (68,000 acre feet [ac ft]) of groundwater were withdrawn from the Las Vegas Valley, far in excess of the perennial yield of $3.08 \times 10^7 m^3$ (25,000 ac ft/yr). The impacts of withdrawing water in Yucca Flat in excess of the perennial yield are expected to include the additional lowering of water levels in the vicinity of water supply wells and the potential for a reduction in subsurface flow into Frenchman Flat.

Comment Code: Organization 5-25

Location of EIS Revision(s): None required

Response: There would be no impacts to the Area 5 Radioactive Waste Management Site because of existing flood protection structures. Although flood studies have shown that the Area 3 Radioactive Waste Management Site would not be impacted by flood events, flood protection structures are planned to protect the disposed site from surface run-off.

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Comment Code: Organization 5-26

Location of EIS Revision(s): Volume 1, Chapter 3, Table 3-5

Response: No substantial increases in air emissions related to the alternatives analyzed in the NTS EIS are expected. Nye County would continue its present attainment designation for all criteria pollutants. No additional violations of air quality standards would be produced in the nonattainment areas of Clark County as a result of any alternative.

Comment Code: Organization 5-27

Location of EIS Revision(s): Volume 1, Chapter 3, Table 3-5

Response: Table 3-5 has been modified to address ground disturbing impacts. Some impacts are expected under this alternative and those determined to be adverse would be negated through avoidance, minimized through project modification, or mitigated through data recovery programs.

Comment Code: Organization 5-28

Location of EIS Revision(s): None required

Response: The health effect risks presented in Volume 1, Chapter 3, Table 3-5, from exposure to tritiated groundwater and an explosion at the Device Assembly Facility, represent incremental increases in risk calculated to result from hypothetical exposure scenarios. This EIS uses hypothetical exposure scenarios to estimate the upper bound of potential human health risks as a result of an activity. For example, no public well currently exists at the boundary of the NTS and the U.S. Air Force controlled area in Oasis Valley. However, a public well at this location in the future cannot be categorically ruled out, so it is appropriate for purposes of analysis to postulate a well and an individual who uses the well as their primary source of drinking water. Using this approach, the estimated risks presented in the NTS EIS would be greater than the actual expected risks to existing public individuals.

The incremental risks presented in this EIS are in addition to other risks that an individual may encounter as a result of everyday life. For example, the risk of fatal cancer to an individual in the general population from all causes is about 0.2, or one in five. In other words, in a population of 100,000 people, 20,000 would be expected to contract fatal cancer from all causes. The accident scenario at the Device Assembly Facility estimated an incremental risk of 0.68 cancer fatalities in the exposed population within 50 miles, about 80,000 people. Within this population, about 16,000 fatal cancers ($80,000 \times 0.2$) would be expected from all causes, and the incremental risk from the postulated accident at the Device Assembly Facility would add 0.68 to this total. In this case, the incremental increase in cancer risk within the population is well within the statistical uncertainty of the cancer risk estimates. Details of the human health risks summarized in Table 3-5 are contained in Volume 1, Appendix H of this EIS.

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Comment Code: Organization 5-29

Location of EIS Revision(s): None required

Response: Average daily traffic volumes on the NTS were calculated with several considerations in mind. The daily trip rate accounts for trucks transporting waste as well as personal automobiles (employees and visitors), buses, and service vehicles. Vehicular trips generated at the NTS are slightly less than the typical vehicular trip generation rate for office and light industrial land uses, which is in the range of 3 to 6 vehicular trip ends per employee. Because approximately 70 percent of on-site employees ride the bus, the rate at the NTS is lower.

Comment Code: Organization 5-30

Location of EIS Revision(s): Volume 1, Chapter 5, Table 5.1-5, Section 5.1.1.2.1

Response: Table 5.1-5 includes low-level waste shipments from Nevada generators and out-of-state generators. The number of low-level waste shipments from out-of-state generators total 6,758, which is approximately the same as the number given in Table 5.1-5 of the Draft NTS EIS. Table 5.1-5 of this EIS discusses on-site traffic impacts and uses an estimate of 6,801 shipments. The two numbers agree well, considering that they were derived from different sources, and were used for different analyses in this EIS. Table 5.1-5 also identifies 9,177 shipments of mixed low-level waste coming from Rocky Flats. In the Final NTS EIS, the Rocky Flats mixed waste shipments have been eliminated from consideration as an activity under Alternative 1.

Comment Code: Organization 5-31

Location of EIS Revision(s): None required

Response: There is currently no monitoring and no monitoring is planned for the Muddy River Area as part of the overall monitoring program for the Area 5 Radioactive Waste Management Site. This facility is located in the Death Valley regional groundwater flow system while the Muddy River Area is located in the White River flow subsystem of the larger Colorado River flow system. There is no published information that has indicated that there is a hydraulic link between the Area 5 Radioactive Waste Management Site and the Colorado River flow system.

Comment Code: Organization 5-32

Location of EIS Revision(s): None required

Response: The waste generated from the remediation of Defense Nuclear Agency sites located on the NTS, would be stored and, if they meet land disposal restrictions, would be disposed of at the NTS.

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Comment Code: Organization 5-33

Location of EIS Revision(s): None required

Response: The waste described is similar to greater-than-Class C, however, this is not greater-than-Class C because it is not commercially generated. A maximum of 0.03 cubic meters (m³) 1 cubic yards (ft³) of this waste was disposed of during the 1980s. No additional amounts of this waste are currently forecast to be disposed of in these boreholes.

Comment Code: Organization 5-34

Location of EIS Revision(s): None required

Response: This waste was disposed of in the greater confinement disposal boreholes at the Area 5 Radioactive Waste Management Site. The waste came from the DOE Experimental Breeder Reactor, which was disassembled and sent to the NTS by Rockwell, Canoga Park, CA.

Comment Code: Organization 5-35

Location of EIS Revision(s): None required

Response: The Solar Enterprise Zone concept analyzed in this EIS includes development of solar energy facilities at both the NTS and other alternative sites. Alternative Solar Enterprise Zone sites may be used in conjunction with the NTS to minimize infrastructure improvements required and to improve access to power markets (Appendix A, Section A.4.3.1). The Eldorado Valley, Dry Lake Valley, and Coyote Spring Valley sites were identified as potentially feasible sites for such facilities by the Corporation for Solar Technology and Renewable Resources, the entity which would actually develop a solar energy facility. Thus, evaluation of the impacts of development of these sites is required by the DOE as part of its National Environmental Policy Act process.

Comment Code: Organization 5-36

Location of EIS Revision(s): None required

Response: American Indians with cultural or historic ties to the NTS have been involved in the monitoring of selected sites of cultural importance to American Indians since 1987. This monitoring program will continue, and at the request of American Indian groups, the DOE is working to develop an expanded monitoring program.

To keep tribal groups informed of DOE/NV activities that could potentially effect sites of importance to American Indians, the DOE sends a quarterly summary of cultural resource survey reports to tribes for review. Copies of the full reports are made available to tribes upon request.

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Comment Code: Organization 5-37

Location of EIS Revision(s): Summary, Table S-3 and Volume 1, Chapter 3, Table 3-5

Response: Table 3-5 has been revised in the Final NTS EIS to show the estimated acreage devoted to each land use under each alternative. Moreover, the estimated acreage of land disturbed under each alternative has been added to the table. Over the 10-year period examined in this EIS, the estimated disturbances are as follows: 10,000 acres under Alternative 1; zero acres under Alternative 2; 21,000 acres under Alternative 3; and 16,500 acres under Alternative 4.

Comment Code: Organization 5-38

Location of EIS Revision(s): None required

Response: Impacts to biological resources for the Solar Enterprise Zone are found in Volume 1, Section 5.3.1.6, "Nondefense Research and Development Program." Descriptions of impacts associated with each technology were not included, because the base facility for each technology will likely disturb about the same acreage (2,400 acres) and have similar biological impacts. Impacts associated with the solar thermal parabolic-trough technology would have the largest impact on biological resources, and would disturb about 2,200 additional acres due to construction of a gas pipeline, but would likely be confined to previously disturbed rights-of-way. Upgrades in transmission facilities would be about the same for each technology. All technologies except the photovoltaic technology, the technology with the least impact on biological resources, would also require various amounts of water, although water use from deep groundwater sources would have little or no impact on springs on the NTS, or other biological resources (see Volume 1, Section 5.3.1.6 "Nondefense Research and Development Program").

Comment Code: Organization 5-39

Location of EIS Revision(s): None required

Response: The impacts on groundwater that are anticipated from the location of a Solar Enterprise Zone facility on the NTS are detailed in Section 5.3.1.2 of this EIS. The impacts would depend upon the location of the water supply for this zone, and are expected to include the lowering of water levels in the vicinity of water supply wells and the possible interception of some portion of the flow out of the basin. As noted in Chapter 5, it is not considered likely that the water withdrawals will have any significant adverse impacts on down gradient water levels or spring discharge rates. It is not believed that contamination that is in the underground testing areas will be mobilized as a result of this pumping because the testing areas are distant from the potential point of water use.

Comment Code: Organization 5-40

Location of EIS Revision(s): None required

Response: The DOE is committed to protecting biological resources and mitigating adverse impacts where possible. The DOE will work with the U.S. Fish and Wildlife Service and comply with any terms and

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conditions, and mitigation measures that would be issued in the Biological Opinion for these activities. Some of the current mitigation measures being used by the DOE at the NTS include conducting biological surveys prior to any construction activity and monitoring areas during construction activities. To date, no tortoises have been found within proposed construction areas; therefore, no tortoises have had to be displaced out of harms way. It is important to remember that desert tortoise densities are low on the NTS, and none of the areas that would be disturbed have been designated by the U.S. Fish and Wildlife Service as critical habitat for desert tortoises. Thus, the loss of this habitat would not significantly impact the continued existence of the desert tortoise.

Comment Code: Organization 5-41

Location of EIS Revision(s): None required

Response: For a discussion of habitat that might be disturbed by Solar Enterprise Zone activities, please see the response to Comment Code Organization 5-38.

Comment Code: Organization 5-42

Location of EIS Revision(s): None required

Response: The decision to retain, reallocate, or release Special Use Airspace is made by the Federal Aviation Administration during its annual review process, based on the stated needs of the agency that uses the airspace. Decisions to relinquish part or all of Special Use Airspace at the NTS or the Nellis Air Force Range Complex would be determined through this process.

Comment Code: Organization 5-43

Location of EIS Revision(s): None required

Response: The U.S. Department of Agriculture, Soil Conservation Service conducts soil surveys of selected areas to provide basic information to citizens that can be applied to managing farms, ranches and woodlands, selecting sites for roads, ponds, buildings, and other structures; and in judging the suitability of tracts for farming, industry, and recreation. Within Nevada, these surveys have been limited to agricultural areas such as Meadow Valley, the Virgin River Area, and the Pahranaagat-Penoyer area. Soil surveys are not done for public lands unless the lands are in the immediate vicinity of agricultural areas. Thus, no Soil Conservation Service soil survey has been done for the NTS or adjoining areas. The DOE has conducted numerous soil investigations on the NTS as part of scientific investigations and for facility design studies.

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Comment Code: Organization 5-44

Location of EIS Revision(s): None required

Response: The DOE is not involved in the actions taken by other government agencies in managing the resources assigned to them. Questions should be directed to the specific agencies involved. The withdrawal of land does go through a public participation process in which questions can be answered.

Comment Code: Organization 5-45

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 5-39.

Comment Code: Organization 5-46

Location of EIS Revision(s): None required

Response: As proposed, Alternative 3 maintains the option of using Areas 18, 29, and 30 on the NTS. Under Alternative 3, those areas would be utilized in support of Defense, Work for Others, and Nondefense Research and Development Activities, and therefore would not be turned back for public use.

Comment Code: Organization 5-47

Location of EIS Revision(s): None required

Response: There is sufficient groundwater at the NTS to service activities in all the alternatives. However, there may be physical, environmental, legal, and administrative limitations on the availability of the groundwater resources from the NTS. These limitations will be considered when performing and siting specific activities at the NTS to ensure that a balance is achieved between current use of groundwater on the NTS and future sustainable use.

Comment Code: Organization 5-48

Location of EIS Revision(s): None required

Response: The process and requirements for the return of withdrawn lands to the public domain are discussed in Section 1.8 of Volume 3.

Comment Code: Organization 5-49

Location of EIS Revision(s): None required

Response: Two Solar Enterprise Zones would be developed under Alternatives 3 and 4. Under both alternatives, the Solar Enterprise Zone on the NTS would encompass an identical unidentified area of 8,300 acres. The off-site Solar Enterprise Zones under both alternatives could be developed in one of three valleys; Eldorado Valley, Dry Lake Valley, or Coyote Spring Valley. The size of the Solar Enterprise Zone in Eldorado Valley is 6,000 acres. The size of the Solar Enterprise Zone in Dry Lake Valley is 3,600 acres. The size of the Solar Enterprise Zone in Coyote Spring Valley is estimated at 7,000 acres.

Comment Code: Organization 5-50

Location of EIS Revision(s): None required

Response: Constructing a Solar Enterprise Zone facility on the NTS would not require remediation of any lands prior to establishment. The facility would be located in an area that has no surficial contamination. The other potential locations are located off the NTS on uncontaminated lands.

Comment Code: Organization 5-51

Location of EIS Revision(s): None required

Response: No clean-up technology would be used because the Solar Enterprise Zone facility would be located on uncontaminated land. See comment and response for Comment Code Organization 5-50 for more information.

Comment Code: Organization 5-52

Location of EIS Revision(s): None required

Response: Because the land for the Solar Enterprise Zone facility would not need to be cleaned, no health risk standard will be necessary. Please see comments and responses for Comment Code Organization 5-50 and 5-51 for more information.

Comment Code: Organization 5-53

Location of EIS Revision(s): None required

Response: Lands identified for solar energy development on the NTS do not require "cleanup" or turn-back activities prior to construction or operation of solar energy facilities. Development plans, such as cost and construction schedules, have not yet been developed.

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Comment Code: Organization 5-54

Location of EIS Revision(s): None required

Response: The operating cost of a Solar Enterprise Zone facility at the NTS was not available for this EIS. Resource needs were summarized from the best available information at the program level. These resource assumptions have been added to Volume 1, Appendix A as Table A-4.

Comment Code: Organization 5-55

Location of EIS Revision(s): None required

Response: Use of the NTS airspace would not increase substantially under any alternative through the Work for Others Program. Primary use of this airspace would be for DoD training and defense-related research and development using aircraft in the DoD inventory. The Department of Energy aircraft may also be used depending on the type of DOE project or the needs of the user under the Work for Others Program.

Comment Code: Organization 5-56

Location of EIS Revision(s): None required

Response: Commercial and general aviation aircraft would not be able to use the NTS airspace under the Alternative 4 Work for Others program. The NTS airspace would continue to be used by the DoD and the DOE.

Comment Code: Organization 5-57

Location of EIS Revision(s): None required

Response: Commercial aviation includes scheduled air-carriers, air-cargo aircraft, and charters. General aviation normally refers to privately owned aviation interests.

Comment Code: Organization 5-58

Location of EIS Revision(s): None required

Response: Nellis Air Force Base operates an air-traffic-control radar facility and a range-control radar facility to monitor and control aircraft flights within airspace over the NTS and the NAFR Complex. These facilities use state-of-the-art radar equipment.

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Comment Code: Organization 5-59

Location of EIS Revision(s): None required

Response: Any future upgrades to airfield facilities or increased staffing of air traffic/range control facilities would not be considered as a direct result of any enhanced use of the NTS.

Comment Code: Organization 5-60

Location of EIS Revision(s): None required

Response: Increased air traffic at the NTS would not directly affect current operation costs for controlling/monitoring flight operations within the NTS/NAFR Complex airspace.

Comment Code: Organization 5-61

Location of EIS Revision(s): None required

Response: All transuranic and transuranic mixed wastes will be shipped to the Waste Isolation Pilot Plant in transuranic packing and transport, revision II (TRUPACT II) type B containers on specially designed tractor trailers that hold up to three TRUPACT I.

Comment Code: Organization 5-62

Location of EIS Revision(s): None required

Response: The low-level liquid waste is now treated at the site of generation, thereby eliminating the need for a treatment facility and the need to transport liquid waste.

Comment Code: Organization 5-63

Location of EIS Revision(s): None required

Response: A decision regarding the shipping containers used to transport contaminated soils and materials to the NTS for disposal has not been made for all the sites under the Nevada Environmental Restoration Program. The first plutonium-contaminated soils cleanup is scheduled to start in July of this year. Use of double-lined durable plastic bags strengthened with fiberglass reinforcement (a.k.a. super sacks) loaded into enclosed transport trucks is currently planned for use in this project. In any case, the containers, covers, or both will, at a minimum, meet the U.S. Department of Transportation requirement for transportation of low specific-activity waste.

Comment Code: Organization 5-64

Location of EIS Revision(s): None required

Response: Under Alternatives 3 and 4, the on-site roadway network would have the operating capacity necessary to handle the increase in traffic as a result of the projects and activities associated with the Nondefense Research and Development Program and the Work for Others Program. Therefore, since no on-site roadway would experience significant traffic congestion, no mitigation would be required.

Comment Code: Organization 5-65

Location of EIS Revision(s): None required

Response: Under Alternatives 3 and 4, the current roadway network already has the necessary traffic capacity; therefore, no mitigation would be required as a result of traffic associated with the Nondefense Research and Development Program or the Work for Others Program. The costs incurred would be the ongoing maintenance costs of the NTS roads.

Comment Code: Organization 5-66

Location of EIS Revision(s): None required

Response: For employees directly affected by downsizing or reductions due to program changes, there have been programs established to assist in retraining or in searching for new jobs. In the case of major changes, a program like the Community Reuse Organization could be established. This program is intended to find new or different programs to compensate for the loss of jobs or activities. Chapter 7, Mitigation, of the Final NTS EIS, identifies the implementation of such programs.

Comment Code: Organization 5-67

Location of EIS Revision(s): None required

Response: The area of the radiologically contaminated soil sites on the NTS and surrounding areas can be found in this EIS, Section 4.1.4.3. Final clean-up levels will be determined through the process established in the Federal Facilities Agreement and Consent Order. That process includes a complex risk evaluation. The Federal Facilities Agreement and Consent Order requires the development of a Corrective Action Decision Document which will provide the rationale for the selected clean-up levels based on investigation activities, costs, and risk to receptors in conjunction with potential future land uses. Funding and schedules for environmental restoration at the DOE facilities is outlined in the Baseline Environmental Management Report published this year.

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Comment Code: Organization 5-68

Location of EIS Revision(s): None required

Response: The NTS waste acceptance criteria NVO-325 (DOE, 1992) and the audits and surveillance of generators by the waste acceptance team are the first line of safety for the site. Through this process, items that are prohibited from disposal at the NTS, and wastes that are incorrectly prepared or packaged are refused permission to ship. Closure caps, air, vadose zone monitoring, and groundwater monitoring at the Area 5 Radioactive Waste Management Site are all additional safety features of the disposal sites.

A briefing on the Area 5 performance assessment and distribution of copies of the document could be provided in January 1997; and for Area 3 in April or May 1998.

Comment Code: Organization 5-69

Location of EIS Revision(s): None required

Response: As stated in Section 2.4.2, the Area 11 Explosive Ordnance Disposal Unit is not a disposal unit, but rather a thermal treatment unit where waste explosives are treated by detonation. Waste explosives are not disposed of by land burial on the NTS and the DOE does not plan to dispose of waste explosives by land burial in the future.

The Area 11 Explosive Ordnance Disposal Unit is a Resource Conservation and Recovery Act Permitted Treatment Unit and is subject to specific design, maintenance, operational, and monitoring requirements. As required by the Resource Conservation and Recovery Act and the Permit, these requirements ensure that the unit is maintained and operated to protect human health and the environment.

The DOE intends to continue to operate the Area 11 Explosive Ordnance Disposal Unit in a manner that is protective of human health and the environment. The future expansion of the operational capacity will be limited to the amounts specified in the Resource Conservation and Recovery Act Permit.

Alternative 1 in Section A.6.1.4 of the NTS EIS describes the destruction and treatment of non-nuclear energetic material (explosives) by detonation in a tunnel located in Area 25. This activity will be limited to the demonstration that this type of treatment is feasible, compliant with the Resource Conservation and Recovery Act, and is protective of human health and the environment.

Comment Code: Organization 5-70

Location of EIS Revision(s): None required

Response: Natural succession of disturbed areas on the NTS is generally a slow process requiring several decades or centuries to establish similar cover and productivity at adjacent undisturbed sites. The variables that have been determined to be important in revegetation success are: adequate moisture during seed germination and establishment, favorable soil conditions and seed of species adapted or native to the site. However, reclamation of disturbed areas can be accelerated. Reclamation trials at Yucca Mountain and at the NTS and Tonopah Test Range sites have shown that revegetation of disturbed areas is practical and that

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equivalent density and cover of vegetation can be accomplished much quicker (3-10 years) than through natural succession (EG&G/EM, 1995). See Section 4.1.6, "Biological Resources (FLORA)" for a more detailed discussion of revegetation problems, techniques and success.

Comment Code: Organization 5-71

Location of EIS Revision(s): None required

Response: Impacts to the environment and appropriate mitigation measures are dependent on the technologies selected for development at the NTS. Mitigation measures required to minimize and repair the environment around and beneath the potential solar energy facilities would be evaluated and selected through the Resource Management Planning process and future National Environmental Policy Act reviews. For additional discussion, please see responses to Comment Codes Organization 5-35 and 5-38.

Comment Code: Organization 5-72

Location of EIS Revision(s): Volume 1, Chapter 5, Section 5.4.1.7

Response: There will not be any significant impact to air quality in and around the NTS under Alternative 4. The Site Support Activities section has been clarified (refer to Section 5.4.1.7, Air Quality). For additional discussion, please see the response to Comment Code Organization 5-26.

Comment Code: Organization 5-73

Locations of EIS Revision(s): None required

Response: Noise impacts as a result of the implementation of Alternative 4 are discussed in Section 5.4.1.8. Under Alternative 4, noise impacts off of the NTS would be minor.

Comment Code: Organization 5-74

Location of EIS Revision(s): None required

Response: The Solar Enterprise Zone concept analyzed in this EIS includes the development of solar energy facilities at both the NTS and other alternative sites. Management of Solar Enterprise Zone facilities off the NTS will be the responsibility of the Corporation for Solar Technology and Renewable Resources (CSTARR), or its successor, and the governmental agencies responsible for the land and other resource management.

Comment Code: Organization 5-75

Location of EIS Revision(s): None required

Response: If a Solar Enterprise Zone facility project were to be undertaken at an off-NTS location, the project proponent would undertake the evaluation of the site, and any impacts created by the project. While the DOE has supported the initiatives related to the solar programs, the off-NTS projects would be privately funded and DOE would not be liable for any negative impacts.

Comment Code: Organization 5-76

Location of EIS Revision(s): None required

Response: The relationship among the NTS programs, the potential for construction and operation of a geologic repository at Yucca Mountain, and the U.S. Air Force programs are discussed in Chapter 6, Cumulative Impacts, and in Chapter 1, Introduction. Section 1.1 of Volume 3 contains additional information on the relationship between Yucca Mountain and the NTS. Chapter 6 also discusses the cumulative impacts related to planned projects of the U.S. Navy, the U.S. Bureau of Land Management, the state of Nevada, Nye County, Lincoln County, Clark County, and American Indian groups.

Comment Code: Organization 5-77

Location of EIS Revision(s): None required

Response: It was the DOE's intent to analyze all of the NTS-related sites in Nevada. This is the reason sites such as the Project Shoal Area, the Tonopah Test Range, and the Central Nevada Test Area are also included in this EIS. A discussion of the effects of the Environmental Restoration Program and the Waste Management Program for each environmental resource at each site is found in Chapter 5. In addition, Table 3-5 summarizes the total effects of these programs.

Comment Code: Organization 5-78

Location of EIS Revision(s): None required

Response: As described in Section 4.7 of Volume 2, the DOE proposes to manage biological resources so as to maintain viable populations of native plants and animals on the NTS. Top management priority will be given to those listed under the Endangered Species Act as threatened or endangered, candidates for listing under that Act, species of concern, and species classified by the state of Nevada as critically endangered.

Comment Code: Organization 5-79

Location of EIS Revision(s): None required

Response: The priorities of DOE with regard to the NTS are directly related to the primary mission of the NTS. Section 2.1 of this EIS describes the current primary mission as maintaining the capability to conduct

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underground nuclear tests, if needed, as well as supporting the science-based Stockpile Stewardship Program of experiments and other kinds of tests. Other activities on the NTS, including waste management are ongoing activities that support the primary mission.

Comment Code: Organization 5-80

Location of EIS Revision(s): None required

Response: The DOE concurs. The NTS extends into Lincoln County. Area 13, which is examined in this EIS, is also partly within Lincoln County.

Comment Code: Organization 5-81

Location of EIS Revision(s): None required

Response: Alternative 4 introduces, in a limited way, the use of the natural resources of the NTS that relate to economic, recreational, and social benefits. The creation of a nuclear era museum or other educational opportunities would provide social benefits, while opening the Timber Mountain Caldera to visitors could provide a recreational benefit. The DOE has not proposed the use of natural resources for economic benefit, although mining has been proposed for consideration by various state, local and private organizations.

Comment Code: Organization 5-82

Location of EIS Revision(s): None required

Response: The DOE's approach to defining goals at appropriate scales is defined in Section 3.3.3, Volume 2.

Comment Code: Organization 5-83

Location of EIS Revision(s): None required

Response: Participation by stakeholders in the land-use decisions through the development of the *Resource Management Plan* is considered to be very important by the DOE. The public participation process in this EIS has involved stakeholders in the evaluation of impacts related to land uses and has resulted in useful information. Public participation in the development of the *Resource Management Plan* is invited.

Comment Code: Organization 5-84

Location of EIS Revision(s): None required

Response: Detailed figures showing the location, size, and configuration of all facilities on the NTS would have been too large and too numerous to include in this EIS. However, numerous maps showing the location of facilities and infrastructure on the NTS were published in Volume 1, Chapters 3 and 4. For example, the land-use maps on Figures 3-1, 3-2, 3-3, and 3-4 in this EIS include the location of existing and proposed

facilities. Volume 1, Chapter 4 figures include maps of water delivery facilities; the NTS power distribution system; existing treatment, storage, and disposal facilities; the NTS transportation system; and other maps describing the facilities on the NTS.

Comment Code: Organization 5-85

Location of EIS Revision(s): None required

Response: Future water needs for a facility or project are determined by the engineering design criteria for that specific facility or project. The engineering design criteria take into consideration all processes that will be conducted as well as the resource requirements for a project. The sum of projected water uses for all facilities or projects that are planned to be operating at some future date determine the future water needs at the NTS.

Comment Code: Organization 5-86

Location of EIS Revision(s): The Reader's Guide now precedes the Summary

Response: The Reader's Guide has been placed before the Summary in the Final NTS EIS to assist the reader in locating specific subjects throughout the document. In an attempt to reduce volume and printing costs, it was decided to combine the Reader's Guide and the Summary in one volume.

Comment Code: Organization 5-87

Location of EIS Revision(s): Volume 1, Section 3.6

Response: The Preferred Alternative is identified and described in the Final NTS EIS. The public will have the opportunity to review the Preferred Alternative during the period between the issuance of the Final NTS EIS and the Record of Decision. This period must be at least 30 days.

Comment Code: Organization 5-88

Location of EIS Revision(s): None required

Response: As noted in the Introduction to this EIS, this is a sitewide EIS and assesses the impacts of programs and actions into the reasonably foreseeable future. For purposes of analysis, the "reasonably foreseeable future" is defined as 10 years, a period of time in which one can predict some course of action for analysis. The NTS EIS assesses "impacts" of those actions for whatever period they cover, i.e., impacts may extend well beyond 10 years and would be addressed in this EIS.

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Comment Code: Organization 5-89

Location of EIS Revision(s): None required

Response: This EIS is a programmatic type evaluation of potential alternative development scenarios for the NTS, at a sitewide level, and for other locations in the state of Nevada, over the next ten years. The DOE believes that the level of analysis is appropriate, given the nature of the proposed activities and potential impact at each location. The Tonopah Test Range like the NTS, has been evaluated in this EIS for all alternatives, programs, and environmental resources. Environmental restoration is the primary DOE/NV activity planned for the other locations off of the NTS (e.g. Project Shoal Area and the Central Nevada Test Area). Environmental restoration plans for these sites is described in Appendix A, Sections A.3.1.6, A.3.1.7 and A.3.1.8. The environmental restoration activities at these off-NTS sites are included in the analysis of impacts, including waste management, health and safety, and transportation areas (see Sections 5.1.2, 5.1.3, and 5.1.4 for evaluation of Alternative 1 and similar sections for Alternative 2, 3 and 4.) These sites contribute a small amount of material and risk when compared to the overall effect of the activities at the NTS.

Comment Code: Organization 5-90

Location of EIS Revision(s): None required

Response: The comment concerning the Nevada Legislature's support of establishment of the NTS is noted.

Comment Code: Organization 5-91

Location of EIS Revision(s): None required

Response: Scientific or engineering notation is used for very small and very large numbers because it is easier to read. The use of scientific notation also prevents the reader from misreading the many zeros that would have to be written out in standard numerical format. The explanation of how to use scientific notation is provided in this EIS Reader's Guide, located in the front of the Summary of this EIS.

Comment Code: Organization 5-92

Location of EIS Revision(s): None required

Response: The purpose of Chapter 4 of this EIS is to describe existing environmental conditions at the NTS and to establish the baseline from which to evaluate environmental changes resulting from the proposed alternatives. The estimated shipment amounts presented in the Transportation Study are associated with the alternatives, not to the baseline conditions established in Chapter 4, and are presented in Chapter 5, Environmental Consequences.

Comment Code: Organization 5-93

Location of EIS Revision(s): Volume 1, Chapter 4, Figures 4-35, 4-36, and 4-37

Response: There is contamination on land off the NTS resulting from testing activities originating on the NTS. The contamination falls within the NAFR Complex boundary and thus is still on controlled access land. The Draft NTS EIS did not include a detail for the locations of the safety tests conducted on the Tonopah Test Range. Inset location details have been added to the figures in the Final NTS EIS.

Comment Code: Organization 5-94

Location of EIS Revision(s): Volume 1, Chapter 3, Section 3.2.6.1

Response: Please see Section 3.2.6.1 of the NTS EIS for a discussion on the relationship of the NTS sitewide EIS to the Yucca Mountain Project. This section has been rewritten to clarify the relationship between NTS activities, which are under the purview of the DOE/NV, and the Yucca Mountain Project, which is under the purview of the Office of Civilian Radioactive Waste Management. In addition, please refer to the discussion in Section 1.1 of Volume 3.

Comment Code: Organization 5-95

Location of EIS Revision(s): None required

Response: Legislation that is pending before Congress relating to interim storage is speculative at this point and not amenable to analysis. The DOE plans and decisions regarding an interim storage facility, including appropriate National Environmental Policy Act analysis, would be made if legislation to that effect is passed.

Comment Code: Organization 5-96

Location of EIS Revision(s): Volume 1, Chapter 3, Section 3.3

Response: Groundwater contamination information is constantly being updated as data from the Underground Test Area project becomes available. This project entails well drilling and testing, both near and distant from underground nuclear test locations, to determine contaminant distribution as a function of distance from the test location. No map of this information is currently available. The text in the Draft NTS EIS (Section 3.3, Comparison of Alternatives and Environmental Impacts) has been changed in the Final NTS EIS. The change indicates that model results, to date, predict that any tritium originating from underground nuclear testing would arrive outside of the NTS/NAFR Complex controlled areas in concentrations which are below the EPA guidelines for drinking water.

Comment Code: Organization 5-97

Location of EIS Revision(s): None required

Response: Subsurface samples taken from boreholes drilled under U3ax/bl, the subsidence crater that has contained waste the longest, have been analyzed and no contaminants have been found. See Section 5.1.1.4 for a discussion of this analysis. An additional borehole is scheduled to be completed under U3ah/at before the end of the calendar year. Those samples will also be analyzed for contaminants from the waste.

A vadose zone monitoring system is being evaluated so that constant monitoring of the disposal cell can be accomplished.

Comment Code: Organization 5-98

Location of EIS Revision(s): None required

Response: The effects of waste management activities at the NTS or Clark County are covered in the discussions on socioeconomics. The waste disposal sites at the NTS are not in the same flow system at the Moapa Indian Reservation, thus impacts on water resources of the reservation are not considered likely. The potential impact to all areas of Clark County were considered in the evaluation of water resources.

Comment Code: Organization 5-99

Location of EIS Revision(s): None required

Response: The DOE did not rely on the 1977 EIS. Chapter 4 of this EIS presents an updated description of the physical, biological, socioeconomic, and operational conditions that currently exist at the NTS and at other DOE lands, and is the baseline environment used to assess the impacts of implementing each alternative.

Comment Code: Organization 5-100

Location of EIS Revision(s): None required

Response: As stated in Section 4.1.1.5, the waste in Area 3 consists primarily of contaminated soils and equipment from the atmospheric testing areas cleanup and construction debris from the decontamination and decommissioning of buildings from other DOE sites.

Comment Code: Organizations 5-101

Location of EIS Revision(s): None required

Response: Requirements for long-term monitoring activities by the DOE would be established by commitments in decision documents (e.g. Records of Decision, Finding of No Significant Impacts), regulations

applicable to the DOE operations or activities, judicial decisions, and other binding agreements. Funding to meet these requirements is dependent on Congressional actions on the annual budget.

Comment Code: Organization 5-102

Location of EIS Revision: None required

Response: While it is true that funding is determined on an annual basis, it has been the experience of the DOE that commitment to monitoring and security has not been an issue with Congress, and that funding has been available for these kinds of programs. To establish a fund to assure continuity of funding would require congressional action.

Comment Code: Organization 5-103

Location of EIS Revision(s): None required

Response: The basic issue is that radionuclides may attach to colloids and be transported in water when they would otherwise not be expected to move. There have been a number of studies of the colloidal transport of radionuclides from underground nuclear testing in groundwater at the NTS. Related studies on similar radionuclides and rocks have been performed for the Yucca Mountain geologic repository project, and the DOE's Office of Subsurface Science has conducted studies on other rock types found on the NTS. Migration of tritium in groundwater at the NTS has been found to be more significant than transport of other radionuclides as colloids. Therefore, present studies focus on transport rates of radionuclides as a result of all mechanisms, not solely colloidal transport. It is also important to distinguish between groundwater flow and the much more rapid flow of water in streams on the earth's surface. Groundwater is subject to distinctly different chemical and physical processes than those applicable to surface waters.

Comment Code: Organization 5-104

Location of EIS Revision(s): None required

Response: Tritium has not been detected outside the northwest NTS boundary. However, due to the location of underground tests conducted in Pahute Mesa, it would be reasonable to assume that tritium exists in the subsurface outside the NTS boundary, but within the boundaries of the U.S. Air Force controlled area.

Comment Code: Organization 5-105

Location of EIS Revision(s): None required

Response: Section 3.2.6.1 of Volume 1 and Section 1.1 of Volume 3 of the NTS EIS explain why the Yucca Mountain project has been excluded from consideration in the NTS EIS. Possible environmental impacts from the construction, operation, and eventual closure of a potential repository for spent nuclear fuel and high-level radioactive waste at Yucca Mountain, including potential cumulative impacts, will be addressed in a separate, ongoing EIS. Site characterization activities at Yucca Mountain are included in the description of the existing

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environment at the NTS (see Section 4 of the NTS EIS) as well as in the discussion of cumulative impacts (see Section 6 of the NTS EIS).

Comment Code: Organization 5-106

Location of EIS Revision(s): None required

Response: The Nevada Risk Assessment Management Program, in their comments on this EIS, did identify several questions which have required detailed evaluation by the authors of this EIS. The DOE agrees that technical accuracy is very important and the authors have prepared responses to the comments and in many cases added information to this EIS to make clearer and more accurate the information contained in this EIS. The DOE believes that the existing information and added clarifications will support decisions based on the content of this EIS.

Comment Code: Organization 5-107

Location of EIS Revision(s): None required

Response: It is difficult for an organization to create a sense of trust in the public. It is possible for an organization to present itself in an open manner, providing information and inviting the public to evaluate, for itself, the honesty with which it is presented. If done correctly, this approach has the potential to increase the level of trust the public has in what is being said. In the process of developing this EIS, the DOE has tried to be open in discussing issues and in inviting a review and evaluation of what is being presented. In that regard, the DOE is trying to increase the level of trust the public has in the DOE.

Comment Code: Organization 5-108

Location of EIS Revision(s): None required

Response: It is the policy of the DOE to manage its facilities and operations in compliance with both the spirit and the requirements of environmental regulations. It is also the intent to use best management practices and recognize new directions to ensure that principles of environmental stewardship are acknowledged.

Comment Code: Organization 5-109

Location of EIS Revision(s): None required

Response: The DOE acknowledges that in many cases the risk of remediating a site, transporting, and disposing of the waste, is greater than the risk of leaving the contaminants in place. Cleanup of some of those sites is still anticipated because long-term institutional control or institutional knowledge cannot be guaranteed. By remediating the sites now, potential future problems may be avoided. Each environmental restoration site is evaluated on a case-by-case basis following the protocol established by the DOE and the state of Nevada in the Federal Facility Agreement and Consent Order.

Each contaminated site is reviewed on a site-specific basis. With the recent signing of the Federal Facility Agreement and Consent Order between the DOE, Defense Nuclear Agency, and the state of Nevada, a corrective action strategy was established. The steps used in implementing the corrective actions are identifying the Corrective Action Sites, Grouping the Corrective Action Sites, Prioritizing the Corrective Action Units, and Preparing Corrective Action Investigation and Corrective Action Documents. Some of the factors considered in prioritization are assessment of risk, available technology, cost, future use, geographic location, presence of cultural resources or sensitive species, stakeholders' concerns, and waste management concerns. These are explained in greater detail in Appendix VI, Corrective Action Strategy of the Federal Facility Agreement and Consent Order (state of Nevada, 1996).

Corrective action alternatives will be based on applicable regulatory standards or proposed clean-up levels, if no standards apply. Proposed levels will be based on pertinent factors including, but not limited to, assessment of risk, current and projected land use, resource management, and technical feasibility.

Comment Code: Organization 5-110

Location of EIS Revision(s): None required

Response: The DOE is trying to make more appropriate and compatible goals for resources on the NTS. Section 4.1 through 4.11 describe the DOE's proposed goals for the management and conservation of resources on the NTS. Sections 2.2 and 4 invite the public to participate in developing those goals.

Comment Code: Organization 5-111

Location of EIS Revision(s): Volume 2, Chapter 1, Section 1.7 and Chapter 2, Section 2.1

Response: The plates contained in Section 6 are included as examples of the types of information that can be used by the *Resource Management Plan*. It is not intended as a complete collection of spatial information that will be used during implementation of the *Resource Management Plan*. To clarify this point, a change was made to Volume 2, Section 2.1. Based on other comments, a change to further clarify this point has also been made in Section 1.7.

Comment Code: Organization 5-112

Location of EIS Revision(s): None required

Response: When land is withdrawn from public use and reserved for a federal purpose, the government's right to appurtenant water is implied. As noted in this EIS in Section 4.1.1.1, the NTS is on withdrawn land, and jurisdiction is assigned to the DOE, a federal agency.

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Comment Code: Organization 5-113

Location of EIS Revision(s): None required

Response: The primary mission of the NTS is weapons testing. Section 2.1 of this EIS describes the current primary mission as maintaining the capability to conduct such tests, if needed, as well as supporting the science-based Stockpile Stewardship Program of experiments and other kinds of tests. In addition, the NTS supports programs in waste management as well as other research and development activities. Chapter 2 of this EIS describes in more detail what the programs are, and how they fit into future plans of the NTS.

Comment Code: Organization 5-114

Location of EIS Revision(s): None required

Response: The NTS EIS discusses past and current atmospheric releases of radioactivity in Sections 3.2.6.3 and 4.1.7. Current releases are very small and do not exceed the standards established by the U.S. Environmental Protection Agency. The DOE has sponsored and participated in evaluations of past releases, and the information has been widely published in the resultant literature. The studies have included the areas of southern Nevada and Utah. Congress has established programs for compensating those individuals who have suffered harm within the definitions of the congressional programs.

Comment Code: Organization 5-115

Location of EIS Revision(s): None required

Response: The DOE wishes to strike a balance between protecting natural resources and allowing existing activities to continue. The goals in Section 4 reflect that desire. For example, the goal for Management of Biological Resources (Section 4.7) reflects the need to protect populations, but does not restrict development unless that development will negatively impact a population. Also, the goal for socioeconomics (Section 4.11) reflects the DOE's commitment to use the resources on the NTS to stimulate local and regional economies.

Comment Code: Organization 5-116

Location of EIS Revision(s): Volume 2, Section 4.4

Response: The DOE is looking at all lands on the NTS that it manages when considering the management of biological resources. Work has been accomplished, and continues, to better understand the distribution of plant and animal populations on the NTS and to identify land resources needed to maintain the viability of these populations. To better protect land resources needed by plants and animals, and still promote the development of existing and future activities, an additional goal has been added to Section 4.4 (Land) that reflects the DOE's goal to site activities on or near existing disturbed areas and leave remote areas undisturbed.

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Comment Code: Organization 5-117

Location of EIS Revision(s): None required

Response: The DOE plans to manage for biodiversity, as described in Section 3.3.1, by maintaining viability of populations for all native plant and animal species on the NTS. Section 3.2.4, states: there are few rare or endemic plants on the NTS, and the boundaries of most populations extend far beyond the NTS into some areas that are managed primarily for the protection of biological resources. Conservation of biodiversity should not conflict with future economic development and expansions on the NTS, unless proposed activities have very wide-ranging, long-term impacts.

Comment Code: Organization 5-118

Location of EIS Revision(s): None required

Response: The ecosystem management effort to be developed as part of the *Resource Management Plan* will not be used as a tool for the continuation of jobs. The guidelines in Section 3 describe a common-sense, uncomplicated means to implement ecosystem management on the NTS. They will not require development of a substantially larger program than currently exists on the NTS to monitor and conserve the ecosystem. They will, however, require a greater effort than currently exists to communicate and cooperate with surrounding land managers and owners.

Comment Code: Organization 5-119

Location of EIS Revision(s): None required

Response: There is no one answer to the question of, "How clean is clean?" "Clean" for the environmental restoration sites on the NTS will be determined as the level that ensures that risks to human health and safety are eliminated or reduced to the standards prescribed by federal and state regulations. Where regulations do not exist, final clean-up levels will be determined through the process established in the Federal Facilities Agreement and Consent Order. The Federal Facilities Agreement and Consent Order requires the development of a Corrective Action Decision Document which will provide the rationale for the selected clean-up level based on investigation activities, costs, and an evaluation of risk to receptors in conjunction with potential future land uses.

Comment Code: Organization 5-120

Location of EIS Revision(s): None required

Response: The *Resource Management Plan*, in combination with the National Environmental Policy Act process, is designed to evaluate future plans to determine whether or not they will degrade the condition of the site. That process is described in Sections 1.4 and 4 of Volume 2.

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Comment Code: Organization 5-121

Location of EIS Revision(s): None required

Response: The U.S. Department of Agriculture, Soil Conservation Service conducts soil surveys of selected areas to provide basic information to citizens that can be applied to managing farms, ranches, and woodlands, selecting sites for roads, ponds, buildings, and other structures; and in judging the suitability of tracts for farming, industry, and recreation. Within Nevada, these surveys have been limited to agricultural areas such as Meadow Valley, the Virgin River Area, and the Pahrangat-Penoyer area. Soil surveys are not done for public lands unless the lands are in the immediate vicinity of agricultural areas. Thus, no Soil Conservation Survey soil survey has been done for the NTS or adjoining areas. The DOE has conducted numerous soil investigations on the NTS as part of scientific investigations and for facility design studies.

Comment Code: Organization 5-122

Location of EIS Revision(s): None required

Response: Subsurface water is water that occurs below the surface of the earth, commonly referred to as groundwater. The depth to water at the NTS varies over the NTS from approximately 91 meters (m) (300 feet [ft]) to more than 457 m (1,500 ft). This information is summarized in Section 4.1.5.2 under the subheading "Water Levels." The DOE's understanding of interconnections between basins is presented in this same section and is based upon a number of reports published by the Nevada Water Resources Division and the U.S. Geological Survey. The commentor is referred to the cited references for more information concerning the phenomenon of the interbasin flow of groundwater.

Comment Code: Organization 5-123

Location of EIS Revision(s): Volume 2, Chapter 2, Section 2.1

Response: The text has been revised to include the Community Advisory Board.

Comment Code: Organization 5-124

Location of EIS Revision(s): None required

Response: Yes, one species of the genus *Halogeton* occurs on the NTS. That species, *H. glomeratus*, is an introduced plant that is relatively common, especially in and around disturbed areas in the bottom of the enclosed basins of Frenchman and Yucca Flats.

Comment Code: Organization 5-125

Location of EIS Revision(s): None required

Response: Natural resources that have economic benefits are mentioned; e.g., water and land. The point of Section 3.2.5 is that natural resources on the NTS historically have had few associated economic, recreational, or other social benefits. This is primarily because the public has not been allowed access to the site because of DOE/NV's missions.

Comment Code: Organization 5-126

Location of EIS Revision(s): None required

Response: The DOE has attempted to develop *Resource Management Plan* goals on an appropriate scale, as described in Section 3.3.3. Any suggestions that will improve that effort will be incorporated into the *Resource Management Plan*.

Comment Code: Organization 5-127

Location of EIS Revision(s): None required

Response: The DOE agrees that public monitoring is a crucial step to predict impacts and find suitable land uses. Extensive public monitoring and impact identification will occur during the National Environmental Policy Act process. In addition, the DOE is soliciting input from groups such as the NTS Community Advisory Board and the Community Reuse Organization on the selection of suitable land uses.

Comment Code: Organization 5-128

Location of EIS Revision(s): None required

Response: Maps describing facilities and infrastructure are available in the NTS Technical Site Information (RSN, 1994). This has been clarified as described in Comment Code Organization 5-111. It would not be possible, nor is it necessary, to include all of those maps in Volume 2. The plates included with Volume 2 are meant to be examples of the types of information available for land-use planning.

Comment Code: Organization 5-129

Location of EIS Revision(s): None required

Response: Section 2.1 of this EIS describes the current primary mission as maintaining the capability to conduct such tests, if needed, as well as supporting the science-based Stockpile Stewardship Program of experiments and other kinds of tests. In addition, the NTS supports programs in waste management as well as other research and development activities. Chapter 2 of this EIS describes in more detail what the programs are, and how they fit into the future plans of the NTS.

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Comment Code: Organization 5-130

Location of EIS Revision(s): None required

Response: Future water needs for a facility or project are determined by the engineering design criteria for that specific facility or project. The engineering design criteria take into consideration all processes that will be conducted, as well as the resource requirements for a project. The sum of projected water uses for all facilities or projects that are planned to be operating at some future date determine the future water needs at the NTS.

Comment Code: Organization 5-131

Location of EIS Revision(s): Volume 1, Section 4.1.3

Response: The comment is correct when stating that the socioeconomic region of influence is not limited to Nye County. The text has been clarified.

Comment Code: Organization 5-132

Location of EIS Revision(s): None required

Response: The DOE recognizes local concerns regarding transportation issues and takes them very seriously. The DOE is committed to working with the public to resolve these concerns.

Comment Code: Organization 5-133

Location of EIS Revision(s): None required

Response: The one-on-one transportation meetings were intended to be held in the respective communities, as noted in Table 2-1 of the Transportation Study. The Lincoln County representatives requested that the meeting be held in Las Vegas, to allow attendance of additional personnel who were involved in the Lincoln County transportation studies. Thus, the meeting was held in Las Vegas.

Comment Code: Organization 5-134

Location of EIS Revision(s): None required

Response: The definitions presented in this document are as defined in applicable federal and state regulations. These definitions are applicable to all federal agencies as well as to the public sector. The inter-relationship between agencies with respect to waste management activities is limited to site locations of activities, (e.g., DoD operations on the NTS managed by DOE, DOE/NV and DOE/Yucca Mountain Site Characterization Office). Waste management activities at the NTS are managed by the maintenance and operation contractor for users of the NTS.

Comment Code: Organization 5-135

Location of EIS Revision(s): None required

Response: It is unlikely that a future decision to locate a spent nuclear fuel and high-level radioactive waste repository at Yucca Mountain would impact route selection for low-level waste shipments to and within the state of Nevada based on existing route selections and regulations. However, the cumulative impacts of shipments to Yucca Mountain and the NTS will be analyzed in the Yucca Mountain EIS. See Section 1.1 of Volume 3 for a discussion between Yucca Mountain and the NTS. See Section 1.6 of Volume 3 for a discussion of the transportation of radioactive waste.

Comment Code: Organization 5-136

Location of EIS Revision(s): None required

Response: All routing decisions are the responsibility of the carrier, which complies with all applicable local, state and federal transportation regulations. These regulations require all routes used to minimize the radiological risk to the public. One of the ways to accomplish this is to avoid populated areas when possible. The Transportation Study, Appendix I, identifies the associated risk for the transportation activities to be minimal. For additional discussion of route selection for radioactive waste shipments see Section 1.6 of Volume 3.

Comment Code: Organization 5-137

Location of EIS Revision(s): None required

Response: Please refer to Section 3.2.6.1 of Volume 1 and Section 1.1 of Volume 3.

Comment Code: Organization 5-138

Location of EIS Revision(s): Volume 1, Appendix I, Attachment E, Section E.1.1.2

Response: The route descriptions have been better defined to correct errors in place locations.

Comment Code: Organization 5-139

Location of EIS Revision: None required

Response: Transportation in the Final NTS EIS is discussed in the same way that it was discussed in the Draft. The comments related to transportation, the transportation study, or transportation-related issues have been addressed, and revisions made in the text, as appropriate. Revisions are noted by a side bar in the revised text margin. In those cases where action is required to address comments related to transportation or other commitments on the part of the DOE, they will be noted in the Record of Decision or in the Mitigation Action Plan that will follow publication of the Final NTS EIS.

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Comment Code: Organization 5-140

Location of EIS Revision(s): None required

Response: The DOE is not authorized to select routes. Carriers select routes in accordance with the U.S. Department of Transportation regulations (40 CFR 397.101[a]). The primary criteria for route selection is to minimize radiological risk to the public. Drivers are required to have route plans, which also contain contingency plans for deviations from routing, in their immediate possession. In addition, please refer to the discussion in Section 1.6 of Volume 3.

Comment Code: Organization 5-141

Location of EIS Revision: None required

Response: The Record of Decision will be issued no sooner than 30 days after the Final NTS EIS is published. That is a requirement of the Council on Environmental Quality regulations implementing the National Environmental Policy Act and is not considered "fast track." As the Record of Decision has not yet been prepared, the DOE cannot speculate as to what it will contain regarding continued dialogue between the public and the DOE on transportation issues. However, it is the intent of the DOE to maintain positive interactions with stakeholders that have been established during the development of this EIS, and this would include continued interaction regarding transportation issues.

Comment Code: Organization 5-142

Location of EIS Revision(s): None required

Response: The methodology and criteria for decisions regarding radioactive waste shipments are continued in the U.S. Department of Transportation regulations (49 CFR 100-177). All entities that transport radioactive material or waste are subject to these regulations. Under those regulations, states in particular can have a role in those decisions involving high-level waste. Refer to Section 1.6 of Volume 3.

Comment Code: Organization 5-143

Location of EIS Revision(s): None required

Response: National routes and 10 in-state routes were generated for analysis using a software code called HIGHWAY. In HIGHWAY, routes are generated by minimizing the total distance and driving time along particular segments. HIGHWAY can also be instructed to generate routes that maximize use of a particular state, city, or highway segment. The representative routes generated by HIGHWAY for the NTS EIS were then evaluated to assess their risk.

Comment Code: Organization 5-144

Location of EIS Revision(s): None required

Response: Legislation that is pending before Congress relating to interim storage is speculative at this point and not amenable to analysis. The DOE plans and decisions regarding an interim storage facility, including appropriate National Environmental Policy Act analysis, would be made if legislation to that effect is passed.

Comment Code: Organization 5-145

Location of EIS Revision(s): None required

Response: The number of shipments that will be required is a prediction based on the known amount of stored waste and on estimated amounts of waste to be generated. The latter value is continually updated with new knowledge. As stated in Section 5.3.1.2.3 the current estimate being used for analysis and planning under Alternative 3 (the alternative with the most shipments) is 2,460 shipments of low-level waste per year and 2,395 Defense Program shipments per year.

Comment Code: Organization 5-146

Location of EIS Revision(s): None required

Response: Transportation and potential routing of spent nuclear fuel and high-level radioactive waste shipments will be evaluated in an ongoing, separate EIS to analyze the possible environmental impacts from the construction, operation, and eventual closure of a potential repository at Yucca Mountain, Nevada. Please see Section 3.2.6.1 of Volume 1 and Section 1.1 of Volume 3 for a discussion of the relationship between Yucca Mountain and the NTS.

The routes deemed appropriate and designated (under the U.S. Department of Transportation regulations) for low-level waste shipments are not necessarily the same routes that will be deemed appropriate for future high-level radioactive waste shipments, when they occur. Even if a repository is eventually developed at Yucca Mountain, the earliest that shipments of high-level radioactive waste are anticipated is the year 2010 which is beyond the timeframe of actions addressed by this EIS. The DOE will follow the U.S. Department of Energy routing regulations that are in effect at that time to cover shipments of spent nuclear fuel and high-level radioactive waste. Potential routes for spent nuclear fuel and high-level radioactive waste shipment will be addressed in the Yucca Mountain Repository EIS.

Comment Code: Organization 6-1

Location of EIS Revision(s): None required

Response: The descriptions of activities in the Draft NTS EIS were not meant to restrict development, but to define programs as clearly and concisely as possible to determine impacts. In this way, this EIS allows the

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DOE to make decisions about uses of the NTS with the best possible information on environmental impacts. As new projects are proposed for the NTS, the DOE would conduct the appropriate reviews required by the National Environmental Policy Act.

Comment Code: Organization 6-2

Location of EIS Revision(s): None required

Response: The NTS has been withdrawn from all public use, including mining and mineral leasing. Alternative 4 includes the possibility of DOE relinquishing portions of the NTS for public use. If the DOE relinquishes land, it would be transferred to the Department of the Interior. The Department of the Interior would administer those lands according to appropriate federal land-use policies. It is too speculative to anticipate at this time whether mining might be included.

Comment Code: Organization 6-3

Location of EIS Revision(s): Volume 1, Section 3.1.4.6

Response: Once land is relinquished for public use, the Department of the Interior would assume management responsibilities, and existing Department of the Interior land-use policies would ensue. Education and recreation uses were included in the Draft NTS EIS as examples of alternate public uses of NTS lands. The draft incorrectly tied these potential activities to lands identified for potential public turn-back. The Final NTS EIS has corrected this error. Refer to Volume 3, Section 1.8.

Comment Code: Organization 6-4

Location of EIS Revision(s): None required

Response: The NTS has been withdrawn from all public use including mining and mineral leasing laws. If the DOE relinquishes land it would be transferred to the Department of the Interior. The Department of the Interior would administer those lands according to appropriate federal land-use policies. If mining were proposed, appropriate NEPA documentation would be prepared.

Comment Code: Organization 7-1

Location of EIS Revision(s): Volume 1, Section 4.1.4.2

Response: In response to a similar comment received from another source, text discussing the decay of tritium has been revised for this Final NTS EIS.

Comment Code: Organization 7-2

Location of EIS Revision(s): Volume 1, Section 4.1.4.2

Response: There is no missing tritium. The number cited in the referenced text was incorrect and has been corrected in the Final NTS EIS.

Comment Code: Organization 7-3

Location of EIS Revision(s): Volume 1, Chapters 3 and 5; Appendix H

Response: The discussion did reference two pathways considered in the groundwater evaluation. The discussions in Chapters 3 and 5, and in Appendix H, have been revised to more clearly describe the groundwater modeling and the results. As noted in the comment, other models show different results and these are discussed in the Final NTS EIS as well. Modeling results consistently indicate that any tritium levels would be below the EPA standards for drinking water.

Comment Code: Organization 7-4

Location of EIS Revision(s): None required

Response: The environmental restoration program is intended to characterize the groundwater systems on the NTS. The results will be incorporated in models to assure that monitoring programs are based on the best information available. However, the DOE believes that the analytical techniques used in preparing the NTS EIS were adequate to predict the environmental impacts of the alternatives. See discussion in Volume 1, Appendix A.

Comment Code: Organization 7-5

Location of EIS Revision(s): None required

Response: The DOE is in the process of declassifying information relating to past activities at the NTS. However, because of national and international security concerns, some material, such as that provided in Appendix J, will necessarily remain classified. Consequently, qualified individuals from the state of Nevada, Division of Environmental Protection and the University of Nevada, Las Vegas Harry Reid Center for Environmental Studies have been granted access by the DOE to classified information relevant to the NTS EIS.

Comment Code: Organization 7-6

Location of EIS Revision(s): None required

Response: The DOE appreciates the recommendations about the preferred alternative. The DOE has considered them in selecting the preferred alternative.

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Comment Code: Organization 7-7

Location of EIS Revision(s): None required

Response: The DOE acknowledges that this EIS is large and contains much information. The comment period must be at least 45 days as noted in the Council on Environmental Quality and DOE regulations. The comment period for this EIS was 90 days, and during that time, eight public meetings and workshops were held, both to collect comments and to help the public understand what was in this EIS. The DOE also offered assistance to anyone who requested it to discuss the document and its content. The DOE does not believe an extension of the comment period was necessary.

Comment Code: Organization 7-8

Location of EIS Revision(s): None required

Response: The DOE welcomes comments on its activities and considers them an important component of the Department's programs. All comments received on programmatic and specific activities are reviewed by the Department and acted upon as appropriate. Comments received during the public comment period for the Draft NTS EIS have been responded to in this document in accordance with the Council on Environmental Quality and DOE regulations for implementing the National Environmental Policy Act.

Comment Code: Organization 8-1

Location of EIS Revision(s): Volume 1, Chapter 2, Sections 2.2 and 2.4.1; Chapter 3, Sections 3.1.1.1 and 3.1.3.1; Chapter 4, Sections 4.1.1, 4.1.1.2, 4.1.4.2; and 4.1.4.3 Appendix A, Sections A.1.1.1.1, A.1.1.4, and A.1.3.1; and the Glossary

Response: Contrary to the commentor's assumptions, subcritical experiments do not constitute a new activity at the NTS, and the Lyner Complex is not a new facility.

Subcritical experiments have been conducted at the NTS over many years. Historically, operations at the NTS have included tests or experiments that included both high explosives and special nuclear materials that were intended to produce no nuclear yield or negligible nuclear energy releases. These experiments frequently remained subcritical (that is, they did not achieve a self-sustaining nuclear reaction). They were often performed as dedicated, stand-alone experiments. In the prior terminology of the time, such experiments were often described as "one point safety" or "equations of state" experiments and were regarded as simply another aspect of the "nuclear testing" that was the predominant activity at the NTS at that time. Some of these earlier subcritical experiments were conducted on the surface, while others were conducted underground in shafts, shallow boreholes, or tunnels. However, environmental considerations resulted in a decision in 1962 to conduct these experiments only underground in the future, so that radioactive materials would not be introduced into the surface environment. The environmental impacts of the subcritical experiments conducted at the surface were principally the dispersal of special nuclear materials, such as plutonium, and other materials, caused by the detonation of high explosives. Subcritical experiments were mentioned in Environmental Impact Statements prepared by the predecessors of the DOE in the early 1970s, as well as in

the 1977 NTS EIS under the names mentioned above. The impacts of past experiments are identified in Chapter 4, Section 4.1, Discussion of Affected Environment, of this EIS.

The DOE proposes to conduct the subcritical experiments referenced by the commentor in the Lyner Complex. Lyner Complex is similar in design to some of the facilities used for the earlier tests (i.e., it is a tunnel complex reached by a shaft). Initial work on what is now known as the Lyner Complex began in the late 1960s with the mining of the U1a shaft to a depth of 305 m (1,000 ft) for a nuclear test. It was not used at that time. Further work took place in the 1980s and early 1990s to develop a complex that could be used to perform intentionally designed low-yield tests or experiments, which, among others, would have included some experiments which would be expected to remain subcritical or provide negligible energy release. The Lyner Complex was completed under the 1977 EIS, which evaluated the impacts of underground nuclear testing. With the moratorium on nuclear testing and the anticipated Comprehensive Test Ban Treaty, Lyner Complex will now be dedicated solely to the conduct of dynamic experiments (including subcritical experiments) and hydrodynamic tests.

The Lyner Complex has been used successfully for testing purposes in the past. The Ledoux nuclear test, which produced a yield of less than 20 kilotons, was conducted on September 27, 1990, in a drift (a nearly horizontal mine passageway) within the tunnel complex. The Kismet experiment, which was conducted on March 1, 1995, was a dynamic experiment with high explosives, tritium, depleted uranium, and other materials. No special nuclear material was used in the Kismet experiment. Both Ledoux and Kismet were contained to prevent radiological release into other portions of the Lyner complex and the surface environment. The Ledoux nuclear test, with its less than 20 kiloton yield, had the potential for much greater impact than do subcritical experiments. The proposed future activities of dynamic experiments (including subcritical experiments involving special nuclear material) and hydrodynamic tests are described in Appendix A and their environmental consequences are discussed in the following Defense Program sections of Chapter 5, Environmental Consequences of this EIS: Sections 5.1.1.4, Geology and Soils; 5.1.1.5.2, Groundwater; 5.1.1.6, Biological Resources; 5.3.1.6, Biological Resources; 5.5, Unavoidable Adverse Effects; 5.6.1.1, Nevada Test Site; and 5.7.3, Nevada Test Site.

In summary, the term "subcritical experiments" does not define a new form of activity at the NTS. Use of the term is intended to clarify the fact that such experiments could not achieve the condition of criticality, and that they would meet current and prospective United States commitments to the moratorium on nuclear testing and the anticipated Comprehensive Test Ban Treaty. Although the specific term "subcritical" was not used in the previous EISs, some tests and experiments conducted over the past four decades, as well as the impacts of those tests and experiments, are substantially the same as those contemplated by the new terminology. What is new with the subcritical experiments proposed to be conducted in Lyner Complex is their increased importance in obtaining needed science-based Stockpile Stewardship data, since the moratorium prevents underground nuclear testing. In the past, when an issue was discovered and a redesign done, an underground nuclear test was almost always conducted to ensure that the redesign functioned as intended and that no unforeseen performance problem had been introduced into the system by the upgrade. Since the United States is no longer conducting underground nuclear tests to obtain information regarding weapons safety and reliability, subcritical experiments are now a more important element of the program for maintaining the reliability and confidence in the existing nuclear weapons stockpile.

Text changes have been made to Chapters 2, 3, 4, Appendix A, and the Glossary to further clarify the nature of these experiments. The DOE believes that the Draft NTS EIS adequately describes the impacts of these experiments, and thus a revised Draft NTS EIS is not needed.

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Comment Code: Organization 8-2

Location of EIS Revision(s): None required

Response: The No Action Alternative accurately reflects the national policy of the United States, as expressed by the President. As stated in Section 2.1 of Volume 1, the United States is aggressively pursuing a zero-yield Comprehensive Test Ban Treaty. As a condition for entering into such a treaty, the President directed the DOE to maintain the readiness to conduct one or more tests if that is deemed to be within the supreme national interest of the United States. Tests conducted under such an unlikely scenario are analyzed in this EIS.

The DOE defined the No Action Alternative as a continuation of the past and current activities at the NTS. Since nuclear testing has been a principal mission for the NTS since its inception, and since it is possible, although unlikely, that additional tests may be required in the future, the DOE believes that it is appropriate to include testing in the No Action Alternative. However, the No Action Alternative is described as presenting two distinct alternative scenarios, one reflecting only maintaining the readiness to test, and one reflecting the potential for a Presidential direction to resume testing. (See Section 3.1.1.1.)

Comment Code: Organization 8-3

Location of EIS Revision(s): None required

Response: Chapter 5, Environmental Consequences, in Sections 5.1.1.4, Geology and Soils; 5.1.1.5.2, Groundwater; 5.1.1.6, Biological Resources; 5.3.1.6, Biological Resources; 5.5 Unavoidable Adverse Effects; 5.6.1.1, Nevada Test Site; and 5.7.3, Nevada Test Site, describes all environmental impacts associated with subcritical experiments.

See the response to Comment Code Organization 8-1 for a discussion of why subcritical experiments at the NTS continue to be a part of the ongoing activities at the NTS.

The recent emphasis on dismantling large numbers of weapons and maintaining a smaller stockpile does not detract from the requirement to ensure the safety and reliability of the remaining weapons. Subcritical experiments will have an enhanced role in that process in the absence of underground nuclear testing.

Comment Code: Organization 8-4

Location of EIS Revision(s): None required

Response: The DOE agrees that the types of tests which may be allowed by a Comprehensive Test Ban Treaty cannot be established at this time. In the face of this uncertainty, this EIS has analyzed and discussed the foreseeable activities associated with both subcritical experiments and the possibility of nuclear testing with yields up to current treaty limits.

Comment Code: Organization 8-5

Location of EIS Revision(s): None required

Response: Subcritical experiments by definition are dynamic experiments involving special nuclear material which do not reach criticality (see Section 2.4.1 of Volume 1 and the Glossary). There has been no attempt to "lump" subcritical experiments with non-nuclear experiments in preparing this EIS. To ensure that subcritical experiments cannot result in a nuclear explosion and are consistent with the zero yield policy, each experimental design would undergo a technical compliance review. This analysis would be performed by technical experts who have not been involved in the original design of the experiment. To proceed with the experiment, the analysis would have to conclude that, by design, the experiment cannot reach criticality. The technical review would also ensure that no nuclear material would be dispersed to the surface environment.

The commentator is referred to the response Comment Code Organization 8-1 for a discussion of the history of subcritical experiments at the NTS.

Comment Code: Organization 8-6

Location of EIS Revision(s): None required

Response: For the reasons stated in the response to Comment Code Organization 8-1, the DOE believes that subcritical experiments are a part of the historic mission of the NTS, and therefore are appropriately described as part of the No Action Alternative in this EIS. The DOE has defined No Action as a continuation of past and current activities, including subcritical experiments. This is consistent with the guidance provided by the Council on Environmental Quality (46 FR 18026, March 23, 1981). The DOE has substantial experience with these experiments, and understands the potential for environmental impacts they present. Moreover, there is nothing unique about the upcoming experiments that could result in impacts that are different from past experiments. Therefore, the DOE does not believe that continuing to conduct subcritical experiments at the NTS constitutes a new action under National Environmental Policy Act. However, the DOE has decided to complete and carefully consider this EIS before deciding whether to proceed with the subcritical experiments which have been proposed. As discussed in response to Comment Code Organization 8-3, the environmental impacts of subcritical experiments are addressed in this EIS.

Comment Code: Organization 8-7

Location of EIS Revision(s): None required

Response: In order to present as much information as possible, text changes have been made to Chapters 2, 3, and 4, Appendix A, and the Glossary, to further clarify the nature of the subcritical experiments conducted at the NTS. While certain details regarding the Lyner Complex, the precise nature of the proposed experiments, and the source terms presented in Appendix J are classified for national security reasons, the environmental impacts are unclassified and were included in Chapter 5 of the Draft NTS EIS as well as the Final NTS EIS (see response to Comment Code Organization 8-3 for specific sections). These data are also included in Chapter 6, Cumulative Impacts. Similar data from past subcritical experiments are included in Chapter 4, Affected Environment, including Sections 4.1.4.2 and 4.1.4.3.

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Comment Code: Organization 8-8

Location of EIS Revision(s): None required

Response: As noted in the response to Comment Code Organization 8-1, subcritical experiments are a long standing part of the NTS's mission and the DOE believes that the provisions of the Council on Environmental Quality (CEQ) regulations regarding interim actions do not preclude the DOE from deciding whether to continue conducting these experiments at the NTS after completion of this EIS. As explained in Comment Code Organization 8-9 concerning the Stockpile Stewardship and Management Programmatic EIS, the DOE is proposing ways to augment the existing nuclear weapons Stockpile Stewardship Program for the specific purpose of accommodating the lack of underground nuclear testing, rather than reconsidering the entire Stockpile Stewardship Program. Ongoing activities, such as the subcritical experiments at the NTS, that are not affected by the decisions to be made in the Stockpile Stewardship and Management Programmatic NTS EIS process are not interim actions under the regulations. Therefore, the DOE intends to make decisions about subcritical experiments in the Record of Decision for this EIS.

Comment Code: Organization 8-9

Location of EIS Revision(s): None required

Response: The DOE is not relying on the Stockpile Stewardship and Management Programmatic EIS for any portion of the National Environmental Policy Act review of subcritical experiments at the NTS. As explained in response to Comment Code Organization 8-1, subcritical experiments are part of the historic mission of the NTS. These experiments and many other ongoing activities throughout the nuclear weapons complex (primarily at Los Alamos, Lawrence Livermore, and Sandia National Laboratories, as well as the NTS) make up the current Stockpile Stewardship Program. It is essential that these activities continue in order to ensure the safety, security, and reliability of the nuclear weapons stockpile, and the DOE is not proposing to modify these activities from a programmatic perspective. Rather, the DOE is proposing to take specific actions to augment the existing stewardship capabilities by providing additional testing capabilities at the laboratories to offset the inability to perform underground nuclear testing at the NTS. As explained in the Draft Stockpile Stewardship and Management Programmatic EIS, these additional laboratory facilities would provide experimental data of a specific nature, and would not be a substitute for the data and information which can only be obtained through subcritical experiments at the NTS.

Comment Code: Organization 8-10

Location of EIS Revision(s): None required

Response: The DOE does not agree with the commentor's conclusion that a revised Draft NTS EIS is required. As discussed in the response to Comment Code Organization 8-3, the DOE believes that this EIS adequately describes the environmental impacts of conducting subcritical experiments at the NTS.

Comment Code: Organization 9-1

Location of EIS Revision(s): None required

Response: The DOE agrees that this EIS contains a large amount of information. It is correct that other DOE EISs have been issued during the comment period for this EIS. The comment period for this EIS was 90 days, an extension beyond the minimum 45-day comment period noted in the Council on Environmental Quality and DOE regulations. The DOE has conducted public meetings and workshops intended to both solicit comments and to help the public understand what is in the document; and the DOE has been open to addressing, in any other way, the information needs related to this document. The DOE does not intend to extend the comment period on this EIS.

Comment Code: Organization 9-2

Location of EIS Revision(s): None required

Response: The DOE is preparing other programmatic and sitewide EISs that are considering the NTS as a potential alternative location for the proposed project. These other EISs are discussed in Chapter 1 of the NTS EIS. Alternative 3, the Expanded Use Alternative, was defined by including any project in other DOE EISs that identify the NTS as a potential alternative site, as well as the potential expansion of programs that already exist at the NTS.

The analysis of impacts under Alternative 3 includes impacts on the NTS of the proposed projects in the other EISs to the extent that this information is available at this time. However, the Record of Decision for the NTS EIS will not make a decision to select the proposed alternatives in these other EISs. Therefore, the NTS EIS can only identify land and facilities that could be used for such projects. If the Expanded Use Alternative were selected in the NTS EIS's Record of Decision, this information could be used, along with other factors, to aid the decisionmaker in selecting the location for activities in other EISs. Further, National Environmental Policy Act review would be required before a specific project would be located at the NTS. However, selection of Alternatives 1 or 2 in the NTS Record of Decision would mean that the DOE would not be able to locate additional activities at the NTS without an amendment to the Record of Decision.

For instance, the comment mentions the potential location of plutonium for storage at the NTS. The Draft Programmatic EIS for Long-Term Storage and Disposition of Weapons Useable Fissile Materials does propose the use of the P-tunnel facility or construction of a new facility at NTS for long-term storage of plutonium. However, the Record of Decision for the NTS EIS cannot make a decision to select this proposal, but can only reserve land and facilities in the event that the Record of Decision for the Programmatic EIS chooses the NTS to locate a plutonium storage facility. The impact analysis for Alternative 3 in the NTS EIS includes the impacts of plutonium storage at the NTS to the extent that information is available. If the Record of Decision for the Storage and Disposition Programmatic EIS selects the NTS for plutonium storage, further National Environmental Policy Act review would be required before plutonium could be sent to the NTS.

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Comment Code: Organization 9-3

Location of EIS Revision(s): None required

Response: The initial land withdrawal which created the NTS specifically acknowledges the primary purpose of the NTS as a weapons testing site. The various secondary activities pursued by the DOE and its predecessor agencies at the NTS have been compatible with the primary purpose for which the land was withdrawn. The DOE shall consult with the Department of the Interior and engage in the appropriate process to ensure that future activities being contemplated by the DOE are undertaken in compliance with applicable federal land law and policy. See also Section 1.4 of Volume 3.

Comment Code: Organization 9-4

Location of EIS Revision(s): None required

Response: Refer to Comment Code Organization 3-1.

Comment Code: Organization 9-5

Location of EIS Revision(s): None required

Response: Chapter 5 and Table 3-5, "Summary Comparison of Environmental Impacts of the Alternatives," both indicate the expected impacts of the alternatives. The DOE did not minimize the impacts, but instead used accepted methods of analysis, and reported the results.

Comment Code: Organization 9-6

Location of EIS Revision(s): None required

Response: The comment regarding "Discontinue Operations" is noted. Section 3.2.3 describes the limitation on the relinquishment of federally withdrawn lands. In addition, please refer to the discussion in Section 1.3 and 1.8 of Volume 3.

Comment Code: Organization 9-7

Location of EIS Revision(s): None required

Response: As discussed in Chapter 2, new activities that were not considered in the NTS EIS will be evaluated on a case-by-case basis and National Environmental Policy Act review will be prepared by the responsible agency, if necessary. If an Environmental Assessment or a Supplemental Environmental Impact Statement is prepared, public review and comment periods are required by the National Environmental Policy Act.

Comment Code: Organization 9-8

Location of EIS Revision(s): None required

Response: The Lyner Complex is discussed in Section 5.1.1.4 of Volume 1 of this EIS, in Appendix A in Section A.1.1.1.3, and, as noted, in the classified Appendix J. The impact information in Appendix J is incorporated in the analysis in NTS EIS Chapter 5. The DOE believes, and has asked the state of Nevada to verify, that the information in Appendix J has been incorporated in Chapter 5. The State has reported their review verifying that the information has been appropriately incorporated in this EIS.

Subcritical experiments are intended to provide information that will help to maintain reliability of the remaining nuclear stockpile and support the treaty safeguards of the proposed Comprehensive Test Ban Treaty. The DOE considers these experiments an integral part of the science-based Stockpile Stewardship Program. Transparency measures would be implemented for these experiments to provide assurances that they would be consistent with the treaty provisions.

Support for the development of a hybrid alternative is noted. The NTS EIS identifies the preferred alternatives at Expanded Use (Alternative 3) plus the public education activities of Alternative 4. This preferred alternative does incorporate the preferences noted in the comment.

Comment Code: Organization 9-9

Location of EIS Revision(s): None required

Response: The DOE believes that the *Resource Management Plan* is a key element of future planning. The relationship of the Plan to this EIS is discussed in Section 1.1 of the Plan and in Section 2.3 of this EIS. In both places, the Plan is characterized as the basis for future planning and is an integral part of the National Environmental Policy Act process for the NTS. The timing regarding its status does not allow identification of alternatives to await completion of the Plan. Similarly, the Transportation Study was intended to document the current and future risks of transportation as they are known today.

Comment Code: Organization 9-10

Location of EIS Revision(s): None required

Response: The invitation to participate in the development of the *Resource Management Plan* has been extended to any interested party. Any new activity proposed for the NTS is subject to the requirements of the National Environmental Policy Act and would provide an opportunity for the public to participate in the review process.

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Comment Code: Organization 9-11

Location of EIS Revision(s): None required

Response: Congress has not yet completed its action on the "interim storage" question. Without that action there is nothing that can be evaluated in this EIS or in any other document. When an action has been completed and a decision has been made then a review, either in another National Environmental Policy Act document or in some other way, will be undertaken. This circumstance is different than pending decisions within the control of the DOE. Such pending decisions have been evaluated in this EIS to the extent that they may have an impact on the NTS. As decisions are made, further National Environmental Policy Act analysis may be required.

Comment Code: Organization 10-1

Location of EIS Revision(s): None required

Response: Alternative 2, Discontinue Operations, was included in this EIS in response to public comments received during the scoping period. The inclusion of this alternative also allowed the DOE to analyze and compare a full range of use-options, including the potential impacts of not remediating the site. In the Final NTS EIS the DOE identifies Alternative 3 as the Preferred Alternative.

Comment Code: Organization 10-2

Location of EIS Revision(s): None required

Response: The primary criterion for route selection, as required by the U.S. Department of Transportation regulations is to minimize radiological risk to the public. The DOE disagrees that the DOE guidelines for transportation routing of low-level waste and mixed waste are lax; the DOE requires compliance with all the U.S. Department of Transportation regulations. Low-level waste is not an extremely hazardous material as defined in the regulations. Carriers select routes under the authority of the U.S. Department of Transportation and in full compliance with all the U.S. Department of Transportation regulations concerning the transportation of radioactive and hazardous waste. The common carriers used by the DOE to transport radioactive and hazardous waste are not only familiar with and experienced in operating under the U.S. Department of Transportation regulations, they are also liable for shipments.

Comment Code: Organization 10-3

Location of EIS Revision(s): None required

Response: The analysis of cumulative impacts has been updated to more fully address impacts of regional development and activities that are reasonably foreseeable in the next 10 years. Transportation of nuclear material to a repository at Yucca Mountain would not occur within the next 10 years; the timeframe covered by this EIS. Please refer to Chapter 6 of Volume 1 for a discussion of the cumulative impacts of radioactive materials transportation where truck transport of nuclear waste from the NTS, other DOE activities, and commercial sources are also addressed. Please refer to Chapter 5 of Volume 1 for a discussion of the

environmental consequences of DOE alternatives including transportation of radioactive waste. Refer to Section 1.1 of Volume 3 for a discussion of the relationship between Yucca Mountain and the NTS.

Comment Code: Organization 10-4

Location of EIS Revision(s): None required

Response: There are currently no plans to ship low-level waste to the NTS by rail. If rail service were to become an option, it would be evaluated at that time. All applicable U.S. Department of Transportation regulations would have to be met by rail transport.

Comment Code: Organization 10-5

Location of EIS Revision(s): None required

Response: See response to Comment Code Organization 5-35.

Comment Code: Organization 10-6

Location of EIS Revision(s): None required

Response: The DOE had not yet selected a Preferred Alternative at the time the Draft NTS EIS was published. The Final NTS EIS identifies Alternative 3 plus the public education activities of Alternative 4 as the Preferred Alternative.

Comment Code: Organization 10-7

Location of EIS Revision(s): None required

Response: Legislation that is pending before Congress relating to interim storage is speculative at this point and not amenable to analysis. The DOE plans and decisions regarding an interim storage facility, including appropriate National Environmental Policy Act analysis, would be made if legislation to that effect is passed.

Comment Code: Organization 10-8

Location of EIS Revision(s): None required

Response: The categorization of greater-than-Class C low-level waste is based on the U.S. Nuclear Regulatory Commission regulations in Title 10 CFR 61.55(2)(iii) and (iv). The DOE believes that its definition is consistent with the regulations and is not "deceitful", as suggested by the comment. Please refer to Section 1.12 of Volume 3 and Chapter 2 for other information.

Comment Code: Organization 10-9

Location of EIS Revision(s): None required

Response: It is the DOE's policy to inform the public as fully as possible concerning its activities. Refer to Section 1.12 of Volume 3.

Comment Code: Organization 10-10

Location of EIS Revision(s): None required

Response: The DOE does not agree that this EIS is being prepared on a "fast track." The Notice of Intent regarding this EIS was issued in August of 1994. Though the goal of the Secretary of Energy is to complete EISs in 15 months, this EIS has taken longer than 15 months to complete. Such things as maximum comment periods, opportunities to comment on the Draft Implementation Plan, and completion of a transportation study with public participation have been efforts to maximize the two-way public dialogue on the content of this EIS. These opportunities have also resulted in extending the time needed to complete this EIS.

Comment Code: Organization 10-11

Location of EIS Revision(s): None required

Response: The DOE does not agree that this EIS is "fatally flawed" or that it should be reissued as a draft. It is acknowledged that the document is complex and that it contains much information and data about the DOE and the programs being considered into the future. Within the framework established in the Notice of Intent and Implementation Plan, the topics being considered in this sitewide document reflect the broad nature of the future actions being considered. The opportunities for public participation, both in the planning for and preparation of the document, were intended to maximize the exchange of information.

Comment Code: Organization 11-1

Location of EIS Revision(s): None required

Response: The DOE or its successors would provide security and monitoring for lands withdrawn from public use, but funding levels are dependent upon Congressional appropriations.

The concern about increased waste disposal in Nevada is noted. The DOE will continue to review the options for other additional uses for the NTS.

Comment Code: Organization 11-2

Location of EIS Revision(s): None required

Response: The potential to accept greater-than-Class C waste, including types and quantities, have not been determined. If a determination is made to accept greater-than-Class C waste, an assessment will be conducted independent of this EIS. Refer to Section 1.12 of Volume 3.

For information about colloidal movement of radionuclides, refer to Comment Code Organization 5-103.

Comment Code: Organization 11-3

Location of EIS Revision(s): None required

Response: The potential construction, operation, and closure of a Yucca Mountain repository is outside of the timeframe covered in this EIS. For further detail, please see Volume 3, Section 1.1, Exclusion of the Yucca Mountain Project.

Comment Code: Organization 11-4

Location of EIS Revision(s): None required

Response: Socioeconomic information on Pahrump is provided in Section 4.1.3 of Volume 1. A separate discussion of Pahrump appears for population, housing, public finance, public schools, police protection, and fire protection. This information was obtained from the Nye County Board of Commissioners. This EIS acknowledges that Pahrump is the largest and most rapidly growing community in Nye County, and will continue to attract new residents. Under Alternative 3, the majority of the jobs would be filled by the existing labor pool. Immigration of 636 people to Nye County is expected as a result of Alternative 3, which would only result in a 1.7 percent increase in the total population of Nye County. This increase would not significantly affect the public services of infrastructure of any area of Nye County.

Comment Code: Organization 12-1

Location of EIS Revision(s): None required

Response: It is assumed that the commentor is referring to the off-site prospective locations for Solar Enterprise Zone facilities. The DOE is acting in coordination with the federal-grant funded Corporation for Solar Technology and Renewable Resources to develop the mission principles of the Solar Enterprise Zone. The Corporation for Solar Technology and Renewable Resources is currently engaged in analyzing suitability preparatory to selecting one or more of the two on-site locations and/or one or more of the three off-site locations for the construction of a large-capacity solar power project.

The National Environmental Policy Act requires that all responsible alternatives be analyzed. The three off-site locations have been identified as potential locations for Solar generations facilities and consequently must be analyzed in this EIS.

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Comment Code: Organization 12-2

Location of EIS Revision(s): None required

Response: It is assumed the commentor is referring to the DOE activities relating to the Yucca Mountain Project. Legislation that is pending before Congress relating to interim storage is speculative at this point and not amenable to analysis. The DOE plans and decisions regarding an interim storage facility, including appropriate National Environmental Policy Act analysis, would be made if legislation to that effect is passed. Refer to Section 1.1 of Volume 3 for information on that project and its relationship with the NTS.

Comment Code: Organization 12-3

Location of EIS Revision(s): None required

Response: The DOE used accepted methodology for the analysis of impacts of transportation routes. The DOE uses common carriers who maintain full compliance with applicable Department of Transportation regulations. Refer to Volume 3, Section 1.6 for more information on transportation.

Comment Code: Organization 12-4

Location of EIS Revision(s): None required

Response: The DOE does not agree that this EIS is being prepared on a "fast track." The Notice of Intent regarding this EIS was issued in August of 1994. Though the goal of the Secretary of Energy is to complete EISs in 15 months, this EIS has taken longer than 15 months to complete. Such things as maximum comment periods, opportunities to comment on the Draft Implementation Plan, and completion of a transportation study with public participation have been efforts to maximize the two-way public dialogue on the content of this EIS. These opportunities have also resulted in extending the time needed to complete this EIS. The Record of Decision will be issued no sooner than 30 days after the issuance of the Final NTS EIS.

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Private Citizens

Comment Code: Private Citizen 1-1

Location of EIS Revision(s): None required

Response: If the proposed Interstate 66 were constructed, waste shipments could be rerouted around St. George as the commentor proposes. However, even if the proposed Interstate 66 is not constructed, the NTS EIS shows that potential impacts from waste shipments would be small under any of the alternatives evaluated. The DOE recognizes that transportation risks are not the only concern in the transportation of waste to the NTS. Consequently, the DOE will continue to interact with the stakeholders to ensure that local concerns are brought to the attention of carriers selecting routes, and continue to conduct all operations, including shipping, in a safe manner.

Comment Code: Private Citizen 2-1

Location of EIS Revision(s): None required

Response: The expressed support for the continued use of the NTS is noted.

Comment Code: Private Citizen 2-2

Location of EIS Revision(s): None required

Response: Recognition that facilities and other resources at the NTS could be used to "dismantle" nuclear weapons is reflected in the inclusion of such an option under Alternative 3. Under Alternative 3, the modification and use of the Device Assembly Facility for the disassembly of nuclear weapons is evaluated as a future use of the NTS.

Comment Code: Private Citizen 2-3

Location of EIS Revision(s): None required

Response: Alternatives 1, 3, and 4 in the NTS EIS include continued disposal of low-level radioactive waste at the NTS. The NTS EIS does not address the long-term storage of high-level radioactive waste; please refer to Section 1.1 of Volume 3 for a discussion of the Yucca Mountain Project which is outside the scope of the NTS EIS.

Comment Code: Private Citizen 2-4

Location of EIS Revision(s): None required

Response: The DOE/NV agrees that research options at the NTS are very broad and open. Solar energy is under active consideration. The NTS EIS also describes the existing Environmental Research Park. This park has allowed for ecosystem preservation and study and is a valuable resource at the NTS. Use of the Environmental Research Park is expected to continue into the future. The Spill Test Facility is another example of non-nuclear research being conducted at the NTS.

Comment Area: Private Citizen 3-1

Location of EIS Revision(s): None required

Response: Potential human health risks as a result of proposed activities at the NTS are discussed in the Occupational and Public Health and Safety sections of Volume 1, Chapter 5 and in Volume 1, Appendix H of the NTS EIS. For all alternatives, impacts were estimated to be less than one additional fatal cancer in the surrounding population over that which would occur without the presence of these NTS activities.

Comment Code: Private Citizen 3-2

Location of EIS Revision(s): None required

Response: Waste minimization has been a very important and successful mission at the NTS in past years. Efforts are in place to reduce and eliminate waste wherever possible. Waste minimization considerations are weighed against costs, liability, and the risk to workers conducting the minimization activities. The workforce at the NTS and within the DOE/NV have received numerous national awards for efforts involving waste minimization. The vast majority of waste associated with NTS activities is relatively benign from an environmental standpoint. Information concerning waste minimization can be obtained by contacting the DOE/NV Project Manager for Waste Minimization, Angela Colarusso, at (702) 295-1218.

Comment Code: Private Citizen 4-1

Location of EIS Revision(s): None required

Response: The reuse of nuclear waste material for the purposes of power production is a subject neither considered nor covered in the NTS EIS.

Comment Code: Private Citizen 5-1

Location of EIS Revision(s): None required

Response: The opposition to the transport of nuclear materials by train is noted; rail transportation has not been addressed in the NTS EIS because it is not expected within the next 10 years. Further National Environmental Policy Act review would be required if waste or other shipments to the NTS by rail are proposed.

Comment Code: Private Citizen 5-2

Location of EIS Revision(s): None required

Response: Possible environmental impacts from the construction, operation, and eventual closure of a potential repository for spent nuclear fuel and high-level radioactive waste at Yucca Mountain, including potential cumulative impacts, will be addressed in a separate, ongoing EIS. Refer to Volume 1, Section 3.2.6.1 and Volume 3, Section 1.1 for further discussion of the relationship between Yucca Mountain and the NTS.

Comment Code: Private Citizen 5-3

Location of EIS Revision(s): None required

Response: The general opposition to all nuclear testing is noted. Please refer to the discussion in Section 1.2 of Volume 3.

Comment Code: Private Citizen 5-4

Location of EIS Revision(s): None required

Response: Future uses of the NTS for other (non-nuclear) purposes are considered within the range of options covered under Alternatives 1, 3, and 4. The non-nuclear, future use options are discussed primarily under the Nondefense Research and Development Program within each of these alternatives.

Comment Code: Private Citizen 6-1

Location of EIS Revision(s): None required

Response: The commentator was called by the DOE as requested. Information on the Radiation Exposure Compensation Program Office was provided in the form of the telephone number (1-800-729-RECP).

Comment Code: Private Citizen 7-1

Location of EIS Revision(s): None required

Response: As stated in Section 1.3, Volume 2 of the NTS EIS, the *Resource Management Plan* will not be used to select future missions. The selection of missions for the site is part of higher level planning processes, all of which will require National Environmental Policy Act review and, therefore, public involvement. Instead, an important part of the goal of the *Resource Management Plan* is to evaluate whether future missions are compatible with ongoing missions and management of resources on the NTS. Therefore, future missions should not be added as a resource issue in Table 2.1.

Comment Code: Private Citizen 7-2

Location of EIS Revision(s): None required

Response: The use of the NTS for recreation and other activities is being considered under Alternative 4 of the NTS EIS. If part or all of that alternative is selected, then those activities will be evaluated using the *Resource Management Plan* and will be incorporated into the existing missions. In addition, if through the NTS EIS evaluation it is determined that recreation should be part of the mission at the NTS, recreational resources will be added as a resource issue.

Comment Code: Private Citizen 7-3

Location of EIS Revision(s): None required

Response: The plan for developing the *Resource Management Plan* encourages feedback and open participation by the public. Public uses of the NTS that do not require security restrictions are being considered under Alternative 4 of the NTS EIS. However, by the very nature of the missions at the NTS that are proposed under Alternatives 1 and 3, it is likely that security restrictions would remain in place for some parts of the NTS.

Comment Code: Private Citizen 7-4

Location of EIS Revision(s): None required

Response: The use of the NTS as an education site is being considered under Alternative 4. If part or all of Alternative 4 is selected, educational activities would be evaluated (using the *Resource Management Plan*) and incorporated into the existing missions. In addition, if through the NTS EIS evaluation and Record of Decision, the DOE determines that educational activities should be part of the NTS mission, then educational resources may be added as a resource issue. Nye County has also proposed the development of a nuclear era museum.

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Comment Code: Private Citizen 7-5

Location of EIS Revision(s): None required

Response: A public museum located at the NTS is being considered as part of Alternative 4. If that part of Alternative 4 is selected and the museum is developed, it would be an excellent location to establish a visitor's center to inform interested people about the *Resource Management Plan* and solicit their opinions about resource use on the NTS.

Comment Code: Private Citizen 8-1

Location of EIS Revision(s): None required

Response: Although not specifically identified, relocation of the site for nuclear testing was an option considered prior to scoping that was eliminated from further consideration primarily because this option represents a major policy decision beyond the scope of future uses of the existing NTS (see Section 3.2.6). Such a decision, were it to be considered, would require the preparation of an EIS specific to the action proposed prior to the decision being made.

Comment Code: Private Citizen 9-1

Location of EIS Revision(s): None required

Response: The opposition to future (nuclear) testing at the NTS is noted. Please refer to the discussion in Section 1.2 of Volume 3.

Comment Code: Private Citizen 9-2

Location of EIS Revision(s): None required

Response: The opposition to the transportation of radioactive materials over local roads, and storage of radioactive materials in Nevada is noted. Refer to the discussions in Sections 1.2 and 1.6 of Volume 3.

Comment Code: Private Citizen 9-3

Location of EIS Revision(s): None required

Response: The opposition to any further (nuclear) testing at the NTS is noted, please refer to the discussion in Section 1.2 of Volume 3.

Comment Code: Private Citizen 9-4

Location of EIS Revision(s): None required

Response: The opposition to the use of the NTS for nuclear storage is noted, please refer to the discussion in Sections 1.2 and 1.12 of Volume 3.

Comment Code: Private Citizen 9-5

Location of EIS Revision(s): None required

Response: The opposition to nuclear powered rockets at the NTS is noted. No such activities are planned for the NTS, and activities of this nature are not included in the range of possible options considered under alternative uses of the NTS evaluated in this EIS.

Comment Code: Private Citizen 9-6

Location of EIS Revision(s): None required

Response: The NTS EIS discusses possible activities for nondefense research and development, including the development of solar power technology at the Solar Enterprise Zone. The DOE actively supports alternative energy programs, such as solar energy research, as part of its ongoing mission. The DOE/NV agrees that southern Nevada is an ideal place for the development of alternative energy resources, and intends to promote the NTS for this project.

Comment Code: Private Citizen 9-7

Location of EIS Revision(s): None required

Response: Wind energy research presents possibilities for development at the NTS, but is not included in this EIS. However, the DOE is involved in wind energy technology development at other locations such as the Lawrence Livermore National Laboratory in California. Some research may be necessary to determine if the NTS is a favorable location for wind energy research, and its implementation would require additional National Environmental Policy Act documentation.

Comment Code: Private Citizen 9-8

Location of EIS Revision(s): None required

Response: Recycling and waste minimization are integral and very important parts of NTS programs. Efforts to develop new ways to recycle, reduce, and eliminate wastes wherever possible are continuing. Examples of recycled materials include scrap metals, toner cartridges, used oil, solvents, various types of paper, and aluminum cans. The workforce at the NTS and within the DOE/NV have received numerous national awards for their efforts in waste minimization.

Comment Code: Private Citizen 10-1

Location of EIS Revision(s): None required

Response: The commentor protests further use of the NTS because of detrimental health effects attributed to testing at the site for the past 40 years. As discussed in Volume 1, Chapter 3, Section 3.2.6.3, an analysis of impacts from past releases and accidents at the NTS was not conducted as part of this EIS. The DOE, with the assistance of other agencies, has initiated and participated in many in-depth investigations into these potential health and safety concerns. Congress has established a compensation program.

Potential human health risks as a result of proposed future activities at the NTS are discussed in the Occupational and Public Health and Safety sections of Volume 1, Chapter 5, and in Volume 1, Appendix H of this EIS. For all alternatives, impacts were estimated to be small, hypothetically resulting in less than one additional fatal cancer in the surrounding population over that which would occur without the presence of these NTS activities.

Comment Code: Private Citizen 10-2

Location of EIS Revision(s): None required

Response: The commentor's preference for closing the site is noted.

Comment Code: Private Citizen 11-1

Location of EIS Revision(s): None required

Response: See response to Comment Code Private Citizen 10-1.

Comment Code: Private Citizen 11-2

Location of EIS Revision(s): None required

Response: The commentor's preference for closing the NTS is noted.

Comment Code: Private Citizen 12-1

Location of EIS Revision(s): None required

Response: See response to Comment Code Private Citizen 5-2.

Comment Code: Private Citizen 12-2

Location of EIS Revision(s): None required

Response: See response to Comment Code Private Citizen 5-2.

Comment Code: Private Citizen 12-3

Location of EIS Revision(s): None required

Response: The comment opposing the closure of the NTS is noted. The alternatives in this EIS are structured to provide a range of possible scenarios for the future use of the NTS and the assessment of potential impacts, including Discontinue Operations (Alternative 2), Expanded Use (Alternative 3), and Alternate Use (Alternative 4).

Comment Code: Private Citizen 13-1

Location of EIS Revision(s): None required

Response: The comment is noted. The DOE is also concerned that its activities do not result in any danger to public health. The Human Health Risk Assessment, Appendix H, of this document discusses the associated risk to the worker and public for ongoing and future activities at the NTS and other DOE sites in Nevada.

Comment Code: Private Citizen 14-1

Location of EIS Revision(s): See list below

Response: Pahrump and/or Highway 160 will be included in the following figures appearing in the NTS EIS: S-1, 1-1, 1-2, 4-1, 4-4, 4-7, 4-8, 4-11, 4-12, 4-15, and 4-16; F-1; F-2; and F-4.

Comment Code: Private Citizen 14-2

Location of EIS Revision(s): Chapter 5, Section 5.1.1.3

Response: Text has been added to clarify the training that the DOE provides.

Comment Code: Private Citizen 14-3

Location of EIS Revision(s): None required

Response: The transportation routes evaluated in the NTS EIS were identified as being consistent with their current use and applicable regulations. The transportation analysis documented in Appendix I of the NTS EIS identifies primary and alternate routes from each waste generator site to the NTS. Highway 160 is identified as an alternate route, not a primary route. Refer to the discussion in Section 1.6 of Volume 3.

Comment Code: Private Citizen 14-4

Location of EIS Revision(s): None required

Response: First, although Nevada route NV-6 ranks high in comparison to other Nevada routes, the transportation analysis documented in Appendix I shows that the transportation risks associated with all routes are small. Second, the NTS EIS evaluates NV-6 and the routes that use Highway 160 as alternate routes, not primary routes. Please refer to comment response, Private Citizen 14-3.

Comment Code: Private Citizen 14-5

Location of EIS Revision(s): None required

Response: Transuranic radioactive wastes are currently stored on the Transuranic Waste Storage Pad at the Area 5 Radioactive Waste Management Site in accordance with a settlement agreement with the state of Nevada, signed June 23, 1992 (state of Nevada, 1992). Provisions of this agreement include permission to store transuranic waste on the pad until the Waste Isolation Pilot Plant in New Mexico, or another DOE site, is available as a treatment, storage, or disposal destination. The agreement with the state of Nevada does not allow for additional transuranic waste to be received from out of state for storage at the NTS. Consequently, none of the alternatives evaluated in this EIS consider the receipt and storage of additional transuranic wastes from DOE sources outside of Nevada.

Comment Code: Private Citizen 14-6

Location of EIS Revision(s): None required

Response: See response to Comment Code Private Citizen 5-2.

Comment Code: Private Citizen 14-7

Location of EIS Revisions(s): None required

Response: The commentor is concerned that there are no viable plans for railroads coming to the NTS. The transportation of radioactive waste by rail is not evaluated as an option in any of the alternatives in this EIS because there are no rail spurs that currently provide service to the NTS. However, Volume 1, Appendix I, Attachment F of the NTS EIS provides a summary of considerations related to rail spur development, use of truck/rail intermodal systems, and comparisons to the continued use of truck transportation systems. This section of the NTS EIS is intended to support a dialogue with Nevada stakeholders on alternative radioactive material transportation opportunities that could benefit both the community and the Federal government.

The DOE will evaluate the possible environmental impacts from the construction, operation, and eventual closure of a potential repository for spent nuclear fuel and high-level radioactive waste at Yucca Mountain, Nevada, including transportation and discussion of potential routing for these waste shipments, in a separate, ongoing EIS. Refer to Volume 1, Section 3.2.6.1 and Section 1.1 of Volume 3 for further discussion on Yucca Mountain.

Comment Code: Private Citizen 14-8

Location of EIS Revision(s): None required

Response: The DOE has not disregarded potential risks of transportation of waste. Two separate appendices: (Appendix H, Human Health Risk and Safety Impacts Study, and Appendix I, Transportation Study) contain examinations of potential risks of both normal operations and accident scenarios. These potential impacts are also summarized in Chapter 5. For further information concerning land disposal of nuclear waste, see Volume 3, Sections 1.2 and 1.12.

Comment Code: Private Citizen 14-9

Location of EIS Revision(s): None required

Response: Based on recent reports, it has been concluded that the plutonium and uranium in the tank waste at Hanford could not go critical. The tanks and the waste at Hanford remain one of DOE's high priorities for remediation and cleanup, however.

Comment Code: Private Citizen 14-10

Location of EIS Revision(s): None required

Response: Over 254,853 m³ (9 million ft³) of radioactive waste (both low-level and mixed) has been transported over public highways to the NTS. To date, there has been no release of any of this material and no damage to the environment or to human health. This waste is packaged and secured in the transport vehicle to reduce the possibility of contaminating the vehicle, environment, or public that comes in contact with the waste packages.

Comment Code: Private Citizen 14-11

Location of EIS Revision(s): None required

Response: The basic issue is that radionuclides may attach to colloids and be transported in water when they would otherwise not be expected to move. There have been a number of studies of the colloidal transport of radionuclides from underground nuclear testing in groundwater at the NTS. Related studies on similar radionuclides and rocks have been performed for the Yucca Mountain geologic repository project, and the DOE's Office of Subsurface Science has conducted studies on other rock types found on the NTS. Migration of tritium in groundwater at the NTS has been found to be more significant than transport of other radionuclides as colloids. Therefore, present studies focus on transport rates of radionuclides as a result of all mechanisms, not solely colloidal transport. It is also important to distinguish between groundwater flow and the much more rapid flow of water in streams on the earth's surface. Groundwater is subject to distinctly different chemical and physical processes than those applicable to surface waters.

Comment Code: Private Citizen 14-12

Location of EIS Revision(s): None required

Response: This EIS examines alternative uses of the NTS and several other DOE-controlled sites in Nevada. Reprocessing and/or reuse of nuclear wastes are beyond the scope of this EIS.

Comment Code: Private Citizen 14-13

Location of EIS Revision(s): Volume 3, Section 1.2, Appendix H

Response: The comment has been noted, please see Section 1.2 of Volume 3. In addition, Appendix H, Human Health Impacts has been extensively revised as a result of detailed comments received on human health and risk issues.

Comment Code: Private Citizen 15-1

Location of EIS Revision(s): None required

Response: The comment has been noted.

Comment Code: Private Citizen 16-1

Location of EIS Revision(s): Volume 3, Section 1.2, Appendix H

Response: The comment has been noted. See Section 1.2 of Volume 3. In addition, Appendix H, Human Health Impacts has been extensively revised as a result of detailed comments received on human health and risk issues.

Comment Code: Private Citizen 16-2

Location of EIS Revision(s): None required

Response: The commentator's opposition to nuclear testing is noted, please refer to the discussion in Section 1.2 of Volume 3.

Comment Code: Private Citizen 17-1

Location of EIS Revision(s): None required

Response: Hard-rock mineral exploitation is currently prohibited on the NTS by law and regulation. Please see Sections 1.4 and 1.8, Volume 3 for additional discussion on this subject.

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Comment Code: Private Citizen 18-1

Location of EIS Revision(s): None required

Response: See Section 1.1 of Volume 3 for discussion of this subject.

Comment Code: Private Citizen 19-1

Location of EIS Revision(s): Chapter 4, Table 4-30

Response: Table 4-30 has been modified to reflect the latest list of candidate species issued by the U.S. Fish and Wildlife Service on February 28, 1996. Most of the suggested modifications to this table are for species no longer designated as candidates, and therefore are not shown in the revised Table 4-30. A change has been made, however, to reflect the possible occurrence of the threatened bald eagle in Coyote Spring Valley, as recommended in the comment.

Comment Code: Private Citizen 20-1

Location of EIS Revision(s): None required

Response: Chapter 5, "Environmental Consequences," includes descriptions of the environmental impacts and the public safety and health risks associated with Defense Program activities, including the subcritical experiments conducted at the Lyner Complex in Area 1. Appendix J contains classified material quantities and design concepts. This information is classified by the DOE for nonproliferation and national security reasons.

Comment Code: Private Citizen 20-2

Location of EIS Revision(s): None required

Response: Gas Core Reactor and Particle Bed Reactor Propulsion Tests are not part of the planned activities for the NTS; the environmental effects of similar historic activities are discussed only in Chapter 4, Existing Environments, of this EIS.

Comment Code: Private Citizen 20-3

Location of EIS Revision(s): None required

Response: Figures within the NTS EIS clearly depict the location of Area 13 on the Nellis Air Force Range (NAFR) Complex. The site additionally is located partially in Nye and Lincoln counties. The accuracy of these locations is further enhanced by text in Chapter 4 of the NTS EIS.

Comment Code: Private Citizen 20-4

Location of EIS Revision(s): None required

Response: Restricted airspaces 4808 and 4809 are controlled by the DOE. These restricted airspaces are flight-controlled by the NAFR Complex. As a result, these airspaces are scheduled for ongoing use by the NAFR Group for DOE and DoD activities.

The roads identified by the commentor are used as entrance and exit ways for the NTS employees and users of the NAFR Complex. The power lines identified are used by the DOE and DoD for ongoing operations on the NTS and NAFR Complex.

Comment Code: Private Citizen 20-5

Location of EIS Revision(s): None required

Response: The National Environmental Policy Act process allows for EISs that address classified proposals to be safeguarded and restricted from public dissemination. In order to make as much government information available to the public as possible, agencies are encouraged (in some cases mandated) to separate classified information from unclassified, and produce a classified appendix when necessary. The DOE accomplished this with the NTS EIS. While Appendix J contains classified information on the nature of the activities to be conducted at the Lyner Complex, the environmental impacts of these activities are not classified, and are presented in Chapter 5 of the EIS.

Comment Code: Private Citizen 21-1

Location of EIS Revision(s): None required

Response: The reuse of nuclear waste material for the purposes of power production is not a subject considered nor covered in the NTS EIS. The DOE in the past has been involved in reprocessing nuclear fuel. The DOE and its National Laboratories are exploring transmutation technologies. These programs are scientific endeavors in their early stages of exploration. Components of the research and development effort of the technologies will be to assess feasibility, implementation, sighting and cost effectiveness.

Comment Code: Private Citizen 22-1

Location of EIS Revision(s): None required

Response: The comment regarding closure of the NTS is noted.

Comment Code: Private Citizen 23-1

Location of EIS Revision(s): Chapter 4, Section 4.3 and Section 4.8 and Appendix A, Section A.3.1.8

Response: The detonation depth of the underground test at the Project Shoal Area was listed on the Draft NTS EIS as 411 m (1,350 ft) and 402 m (1,350 ft) below ground. These depths are incorrect (Gardner and Nork, 1970). The underground test at the Project Shoal Area was actually detonated at 367 m (1,205 ft) below ground. The Final NTS EIS has been revised to reflect the correct depth. The reference containing the correct depth is also cited.

Comment Code: Private Citizen 24-1

Location of EIS Revision(s): None required

Response: The commentor's opposition to storage or transportation of nuclear waste is noted. Please refer to the discussion in Section 1.2 of Volume 3.

Comment Code: Private Citizen 25-1

Location of EIS Revision(s): None required

Response: The development of this EIS has been in progress for more than a year. The budget for last year was approximately \$5 million. This year has not been completed, but the target is about the same level of funding. The total budget is not expected to exceed \$10 million.

Comment Code: Private Citizen 25-2

Location of EIS Revision(s): None required

Response: The commentor's opposition to the transport of material from other states to the NTS is noted. Refer to the discussion in Section 1.2 of Volume 3.

Comment Code: Private Citizen 26-1

Location of EIS Revision(s): None required

Response: The comment regarding closure of the NTS is noted.

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Comment Code: Private Citizen 27-1

Location of EIS Revision(s): None required

Response: The commentor's support for keeping the NTS open is noted. Alternatives 1, 3 and 4 would keep the NTS open for other purposes and testing.

Comment Code: Private Citizen 28-1

Location of EIS Revision(s): None required

Response: Concerns regarding transportation along U.S. Highway 93 and across Hoover Dam have been noted by the DOE. The DOE concurs that a bypass around Las Vegas would provide a way to transport hazardous and radioactive materials without going through the city. Refer to the discussion in Section 1.6 of Volume 3.

Comment Code: Private Citizen 28-2

Location of EIS Revision(s): None required

Response: The comment is noted. Refer to Section 1.6 of Volume 3.

Comment Code: Private Citizen 29-1

Location of EIS Revision(s): None required

Response: The commentor's support for defense and nondefense research and development and testing activities is noted.

Comment Code: Private Citizen 30-1

Location of EIS Revision(s): None required

Response: The commentor's support for not losing the site is noted.

Comment Code: Private Citizen 31-1

Location of EIS Revision(s): None required

Response: The commentor's support for the NTS and current programs, as well as expanded use activities, is noted.

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Comment Code: Private Citizen 32-1

Location of EIS Revision(s): None required

Response: The commentor's support for keeping the NTS open is noted.

Comment Code: Private Citizen 33-1

Location of EIS Revision(s): None required

Response: The commentor's support for keeping the site open is noted.

Comment Code: Private Citizen 34-1

Location of EIS Revision(s): None required

Response: Concerns regarding transportation across Hoover Dam have been noted by the DOE. Refer to the discussion in Section 1.6 of Volume 3.

Comment Code: Private Citizen 35-1

Location of EIS Revision(s): None required

Response: Support for the NTS and current programs, as well as expanded use activities, is noted.

Comment Code: Private Citizen 36-1

Location of EIS Revision(s): None required

Response: Support for the NTS and current programs, as well as expanded use activities, is noted.

Comment Code: Private Citizen 37-1

Location of EIS Revision(s): None required

Response: Support for the NTS and current programs, as well as expanded use, is noted.

Comment Code: Private Citizen 38-1

Location of EIS Revision(s): None required

Response: The commentor's support for the NTS and current programs, as well as expanded use activities, is noted.

Comment Code: Private Citizen 39-1

Location of EIS Revision(s): None required

Response: Concerns regarding transportation of hazardous material across the Hoover Dam have been noted by the DOE. Refer to the discussion in Section 1.6 of Volume 3.

Comment Code: Private Citizen 40-1

Location of EIS Revision(s): None required

Response: The commentor's opinion that nuclear testing is overemphasized is noted. The range of alternatives that the DOE is considering shows the variety of activities that could occur at the NTS.

Comment Code: Private Citizen 41-1

Location of EIS Revision(s): None required

Response: The comment is noted concerning transportation of hazardous materials and waste across Boulder Dam and through Boulder City. Refer to discussion in Section 1.6 of Volume 3.

Comment Code: Private Citizen 42-1

Location of EIS Revision(s): None required

Response: Refer to discussion in Section 1.6 of Volume 3.

Comment Code: Private Citizen 43-1

Location of EIS Revision(s): None required

Response: A great deal of work has been done to better understand the distribution and abundance of desert tortoises on the NTS. Summaries of this work are cited in Section 4.1.6. Within the range of the desert tortoise on the NTS (see Figure 4-43), the abundance of tortoises is very low and they are absent or very rare throughout much of this area. It is therefore impossible at this time to determine how much of the 3,105 acres proposed for disturbance within the range of the desert tortoise actually have tortoises living there. Searches for desert tortoises have been and will continue to be conducted before any areas on the NTS are disturbed.

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Specific mitigation actions to be taken to protect desert tortoises will be developed during consultation with the U.S. Fish and Wildlife Service, as required under the Endangered Species Act and described in Section 7.6.

Comment Code: Private Citizen 43-2

Location of EIS Revision(s): None required

Response: The new Solar Enterprise Zones will not be located in the Project Shoal Area or in the Central Nevada Test Area. The only ground-disturbing activity that would generate PM_{10} are related to the Environmental Restoration Program. This program will result in a disturbance of 10 acres of land at the Project Shoal Area (see Section 5.1.3.7) and a disturbance of 44 acres at the Central Nevada Test Area (see Section 5.1.4.7). Water will be applied to the disturbed areas to minimize the production of fugitive dust. Since PM_{10} will be relatively low from these small sources, the PM_{10} air quality standards will not be violated, and air monitoring will not be required.

Comment Code: Private Citizen 43-3

Location of EIS Revision(s): None required

Response: Off-site nuclear testing is not considered in any of the alternatives.

Comment Code: Private Citizen 43-4

Location of EIS Revision(s): Summary

Response: Off-site locations are included in the DOE Environmental Restoration Program. A description of Environmental Restoration programs at off-site locations included in this program can be found in Appendix A, Section A.3, "Nevada Environmental Restoration Program."

Because exposure to the contamination is based on the projected land use for each specific Corrective Action Unit (grouping of environmental restoration sites), it is necessary to determine the levels and extent of contamination. Therefore, specific investigations and risk assessments are being conducted for each Corrective Action Unit.

With the exception of temporary storage of investigation and remediation-derived wastes, there will be no waste storage at the off-site locations. These wastes would be transported to approved treatment, storage, or disposal sites.

The sentence referring to continued testing at off-site locations has been rewritten to reflect that no further testing will be conducted at the off-site locations.

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Comment Code: Private Citizen 43-5

Location of EIS Revision(s): None required

Response: While Alternatives 3 and 4 have many similar non-defense research and development aspects, under Alternative 4 the DOE would discontinue all defense-related and Work for Others activities at the NTS, while under Alternative 3 these programs would expand. The relinquishing of land under Alternative 4 would also preclude many of the proposed and continuing activities mentioned as a part of Alternative 3. The alternatives have been designed to allow the DOE to analyze and compare the potential environmental effects of a wide range of use options. The Final NTS EIS identifies Alternative 3 plus the public education activities of Alternative 4 as the preferred alternative.

Comment Code: Private Citizen 43-6

Location of EIS Revision(s): None required

Response: The commentor's support for bringing radioactive and hazardous materials to the NTS is noted. The NTS EIS, Sections A.3.1.7 and A.3.1.8, includes environmental restoration objectives for the off sites located in the state of Nevada. Radioactive wastes generated during characterization or remediation activities at the off sites would be disposed of either at the NTS or at other licensed radioactive waste disposal facilities. Toxic Resource Conservation and Recovery Act wastes are not disposed of at the NTS. When generated at the NTS these wastes are disposed of at licensed hazardous waste disposal facilities and would be similarly disposed of if generated at the off sites.

Comment Code: Private Citizen 43-7

Location of EIS Revision(s): None required

Response: The proposed Solar Enterprise Zone projects are currently not defined enough to determine if revegetation is feasible. Environmental impacts are dependent on the specific technology selected. As these projects become more clearly defined and a site is selected, the DOE will consider appropriate mitigation measures through site-specific National Environmental Policy Act reviews.

Comment Code: Private Citizen 43-8

Location of EIS Revision(s): None required

Response: Chapters 3 and 4 and Appendix A provide detailed descriptions of current operations.

Comment Code: Private Citizen 43-9

Location of EIS Revision(s): None required

Response: The suggestion that the tables be used for statistics and ratios and not for narrative comparison is noted. The text does contain the comparison of alternatives as suggested, but a method to consolidate and summarize the comparison resulted in the creation of the tables. The format of the Final NTS EIS may help alleviate the confusion identified.

Comment Code: Private Citizen 43-10

Location of EIS Revision(s): None required

Response: The suggestion that pictures of sites and facilities be included is appreciated, and it would help to illustrate complex issues. As noted in the comment, however, the cost of including them at this time would be high and would expand an already large document.

Comment Code: Private Citizen 44-1

Location of EIS Revision(s): None required

Response: The comment in opposition to further nuclear testing is noted. Refer to the discussion in Section 1.2 of Volume 3.

Comment Code: Private Citizen 45-1

Location of EIS Revision(s): None required

Response: A study performed by CH₂MHill (1993) assessed the range of impacts that could be of concern for transportation of hazardous materials across the Hoover Dam. The reasonable worst-case impacts were found to be associated with a release of flammable liquids, such as gasoline, which could cause loss of life and long-term disruption of power generation by Hoover Dam. The report stated that other classes of hazardous materials would be less likely to produce this type of impact to the dam or its facilities. Although the report did not specifically address radioactive materials, historical data from radioactive material transportation accidents indicate that an accident at the Hoover Dam involving low-level waste would be less likely and would be expected to have less impact than a release of flammable liquids.

Comment Code: Private Citizen 45-2

Location of EIS Revision(s): None required

Response: An accident at the Hoover Dam involving low-level waste would not be expected to affect the electrical generator systems at the dam. See response to Comment Code Private Citizen 45-1.

Comment Code: Private Citizen 45-3

Location of EIS Revision(s): None required

Response: The NTS EIS covers the 10 years from 1996 to 2005, and transportation operations will occur throughout this period.

Comment Code: Private Citizen 45-4

Location of EIS Revision(s): None required

Response: The DOE makes every effort to ensure the quality of the carriers, drivers, and equipment used to transport DOE materials. The DOE has a Motor Carrier Evaluation Program to assist DOE field office and contractor transportation personnel in selecting carriers to transport radioactive and/or hazardous materials. The DOE and its contractor transportation specialists review the following information on the carriers: experience with hazardous and radioactive cargo, safety and regulatory compliance record, driver employment policies, equipment maintenance programs and procedures, emergency response capabilities, driver training programs, and financial stability.

In addition to the DOE's evaluation program, carriers are subject to Federal Highway Administration inspections, and the U.S. Department of Transportation issues a safety fitness rating for the carrier. The U.S. Department of Transportation also funds the Motor Carrier Safety Assistance Program which provides information about accident statistics, roadside inspection results, and compliance reviews at the carrier's principal place of business. The DOE contractor transportation specialists study all of this information to evaluate carrier eligibility.

Comment Code: Private Citizen 45-5

Location of EIS Revision(s): None required

Response: The low-level waste is packaged in the U.S. Department of Transportation-approved packages which prevent the material from being dispersed. All packages are loaded and transported in closed vehicles. Packaging, loading, and unloading are all conducted in accordance with site-specific handling procedures which further ensure safe transport.

Empty vehicles undergo radiological surveys when leaving the waste disposal facility. Additionally, radiation monitors are located at the main gate of the NTS.

Comment Code: Private Citizen 45-6

Location of EIS Revision(s): None required

Response: Packaging and shipping requirements for transport of low-level waste are established by the U.S. Department of Transportation. All waste shipments made by the DOE are in accordance with the U.S. Department of Transportation regulations. The regulations are designed to ensure that there is no release of radioactive material from its packaging under normal shipping conditions. As shown by the analysis

documented in the NTS EIS, the potential human health risk associated with transportation accidents are low and do not warrant more stringent safeguards than those currently required by law.

Comment Code: Private Citizen 45-7

Location of EIS Revision(s): None required

Response: Regulations promulgated by the U.S. Department of Transportation require that the type and amount of radioactive material be determined prior to shipment. The regulations identify various levels of packaging and labeling requirements based on the type and amount of radioactive material to be shipped.

Comment Code: Private Citizen 45-8

Location of EIS Revision(s): None required

Response: All vehicles transporting the low-level waste are clearly labeled and marked in accordance with the U.S. Department of Transportation regulations at 49 CFR 100-177. These regulations require the vehicle to clearly display the word "RADIOACTIVE" along with the yellow and black trefoil symbol of radioactivity. The symbol must be a minimum of 625 cm² (100 in.²) and shall be displayed on the front, back, and both sides of the vehicle.

Comment Code: Private Citizen 45-9

Location of EIS Revision(s): None required

Response: Although some potential for human error will always exist, operations are planned to reduce the possibility of human error and its consequences as much as possible. Written, approved procedures are used and quality checks are maintained to ensure that waste shipped to the NTS is properly packaged and transported according to all safety, environmental, and transportation requirements. To achieve this, the DOE and its contractor transportation specialists visit carrier's corporate offices and maintenance facilities on a regular basis to determine how well they comply with the U.S. Department of Transportation standards.

Comment Code: Private Citizen 46-1

Location of EIS Revision(s): None required

Response: Although the meeting was held in Las Vegas, it was hosted by Lincoln County. Lincoln County requested that the meeting be held on the University of Nevada, Las Vegas campus to allow access to University of Nevada, Las Vegas staff.

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Comment Code: Private Citizen 46-2

Location of EIS Revision(s): Chapter 3, Section 3.2.6.1

Response: Refer to the discussion in Section 1.1 of Volume 3.

Comment Code: Private Citizen 46-3

Location of EIS Revision(s): None required

Response: Ongoing activities at the NTS as well as this EIS include and consider Yucca Mountain site characterization activities. As mentioned in Volume 2, *Framework for Resource Management Plan*, Section 1.3, of the Draft NTS EIS, the Yucca Mountain Site Characterization Office has been granted permission by the DOE/NV for the exclusive use of a portion of the NTS for the Yucca Mountain Site characterization activities. A memorandum of agreement between the DOE/NV and the Yucca Mountain Site Characterization Office assures that land use planning and resource management will be coordinated between the two entities. For further explanation of the relationship between the Yucca Mountain Project and the NTS EIS, please see Volume 1, Chapter 3, Section 3.2.6.1 and Section 1.1 of this Volume.

Comment Code: Private Citizen 46-4

Location of EIS Revision(s): None required

Response: The routes evaluated are not proposed routes; they were chosen as representative routes for evaluation. Non-existent potential roadways cannot be evaluated. See Section 1.6 of Volume 3. Exclusion of the Yucca Mountain Project from this EIS is discussed in Section 1.1 of Volume 3.

Comment Code: Private Citizen 46-5

Location of EIS Revision(s): None required

Response: Refer to the discussion in Section 1.6 of Volume 3.

Comment Code: Private Citizen 46-6

Location of EIS Revision(s): None required

Response: The characterization activities at Yucca Mountain were included in Chapter 6, Cumulative Impacts. The construction, operation, and closure of a Yucca Mountain repository will be addressed in a separate EIS which will assess the cumulative impacts of Yucca Mountain and the NTS. Refer to the discussion in Section 1.1 of Volume 3.

Comment Code: Private Citizen 46-7

Location of EIS Revision(s): None required

Response: Please refer to the response to Comment Code Private Citizen 46-6.

Comment Code: Private Citizen 46-8

Location of EIS Revision(s): Volume 1, Appendix I, Section F.1.1.2

Response: The text was revised to clarify the description of the second route.

Comment Code: Private Citizen 46-9

Location of EIS Revision(s): None required

Response: The roads referred to by the commentor are paved on the portions of land controlled by the DOE. These roads are used by both the DOE and DoD for ongoing and future activities. The portion of the road that is unpaved is on land administered by the Department of the Interior and the DOE does not have the authority or responsibility to perform any upgrades to their roads.

Comment Code: Private Citizen 46-10

Location of EIS Revision(s): None required

Response: The section of Mercury Highway from Rainier Mesa Road to the gate in the northeast corner of the NTS was not considered to be a key, onsite roadway segment and was not included in the on-site traffic impact analysis.

The trip distribution and traffic assignment portions of the analysis had to take various assumptions into consideration. One of these assumptions was that all off-site trips (i.e., those with an end-point off the NTS), with the exception of some trips in Area 25, would pass through the main gate in Mercury. This assumption was necessary because there are no available traffic studies that address employee distribution and vehicle counts at the gates. Therefore, the on-site traffic impact analysis is provided with a conservative analysis by concentrating most commuters at the main gate in Mercury.

Comment Code: Private Citizen 46-11

Location of EIS Revision(s): Summary

Response: The DOE concurs. The Readers Guide has been moved to the front of the Summary document.

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Comment Code: Private Citizen 46-12

Location of EIS Revision(s): Summary

Response: The DOE concurs and has made the correction. Area 13 is within Nye and Lincoln Counties.

Comment Code: Private Citizen 46-13

Location of EIS Revision(s): None required

Response: The DOE is not involved in the actions taken by other government agencies in managing the resources assigned to them and has no answer to this question. The withdrawal of land does go through a public participation process in which questions like this one can be answered.

Comment Code: Private Citizen 46-14

Location of EIS Revision(s): Summary

Response: The distance to Las Vegas has been changed to 72 kilometers (km) (45 miles [mi]). The sentence describing "designated wilderness management area" has been revised for clarification.

Comment Code: Private Citizen 46-15

Location of EIS Revision(s): None required

Response: The statement referenced in the Draft NTS EIS is correct. Coyote Spring Valley, Dry Lake Valley, and Eldorado Valley basins are all part of the Colorado River drainage system which ultimately discharges to the Gulf of California.

Comment Code: Private Citizen 46-16

Location of EIS Revision(s): None required

Response: Following the Air Force's testing of the carbonate aquifer well in 1981, there have been additional water developments in the Muddy Springs area. While the Air Force conclusions were consistent with the result of their tests at that time, they may not be extrapolated to the present-day situation without taking new developments into account.

Comment Code: Private Citizen 46-17

Location of EIS Revision(s): None required

Response: The DOE notes this comment that man should have first priority and that technology development and related economic development should be emphasized. These priorities are reflected in the DOE's goal for exiting missions (Section 4.1), which includes technology development, and in the goal for socioeconomics (Section 4.11).

Comment Code: Private Citizen 46-18

Location of EIS Revision(s): None required

Response: The DOE does not plan to manage the NTS primarily as an environmental showcase. The U.S. Congress has identified the primary use of the NTS to be held in reserve weapons testing, and that will continue until the DOE is directed otherwise. Because of the extensive, taxpayer-funded infrastructure available on this site, the DOE thinks it makes economic sense to continue to use and develop this site. However, the DOE also is committed to minimizing its impacts on the natural resources on the NTS, as reflected in the Land- and Facility-Use Management Policy. By implementing this policy through the development of the *Resource Management Plan*, the DOE will attempt to balance the protection of the natural environment on the NTS with its primary missions. The approach the DOE has used and will continue to use for maintenance of healthy populations of sensitive species is very similar to that described by the commentor.

Comment Code: Private Citizen 46-19

Location of EIS Revision(s): None required

Response: The DOE does take each activity on a case-by-case basis as part of the National Environmental Policy Act process. Ecosystem management is a set of principles that will be used during the evaluation of impacts of these activities.

Comment Code: Private Citizen 46-20

Location of EIS Revision(s): None required

Response: No Soil Conservation Service soil survey has been done for the NTS or adjacent areas.

Comment Code: Private Citizen 46-21

Location of EIS Revision(s): None required

Response: Subsurface water is any water that occurs below the land surface; i.e., groundwater, without regard for the depth. The depth to groundwater is presented in the hydrology section of the description of the affected environment for each geographic area covered by the NTS EIS. The DOE's presentation of the concept of

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interbasin flow is based upon the many published reports on the water resources of Nevada, the Great Basin, and other individual basins. The specific references are cited within the appropriate sections of the NTS EIS.

Comment Code: Private Citizen 46-22

Location of EIS Revision(s): Volume 2, *Resource Management Plan*, 2.1, Step 3

Response: The Community Advisory Board will be added to the list of parties consulted in the development of the *Resource Management Plan*.

Comment Code: Private Citizen 46-23

Location of EIS Revision(s): None required

Response: The approach suggested in this comment is very similar to that proposed in the *Resource Management Plan*. Work has been done, and continues to better understand the distribution of plant and animal populations on the NTS and identify the land resources needed to maintain the viability of those populations. To better protect the land resources needed by plants and animals, and still promote the development of existing and future activities, an additional goal will be added to Section 4.4 (Land) that reflects the DOE's goal to site activities on or near existing disturbed areas and leave remote areas undisturbed.

One species of the genus *Halogeton* occurs on the NTS. That species, *H. glomeratus*, is an introduced plant that is relatively common in and around disturbed areas in the bottom of enclosed basins such as Frenchman and Yucca Flat.

Comment Code: Private Citizen 46-24

Location of EIS Revision(s): None required

Response: The DOE agrees that natural resources on the NTS have had few economic, recreational, or social benefits because people have not been allowed on the NTS. Access has been restricted because of DOE's primary mission.

Comment Code: Private Citizen 46-25

Location of EIS Revision(s): None required

Response: Maps identifying facilities and other infrastructure features were available in the October 1994 revision of the NTS Technical Site Information (RSN, 1994). This document is located in the Administrative Record.

Comment Code: Private Citizen 46-26

Location of EIS Revision(s): None required

Response: When land is withdrawn from public use and reserved for a federal purpose, the Government's right to appurtenant water is implied. As noted in the NTS EIS in Section 4.1.1.1, the NTS is on withdrawn land, and jurisdiction is assigned to the DOE, a federal agency.

Comment Code: Private Citizen 46-27

Location of EIS Revision(s): None required

Response: The DOE's primary mission activities are defined in Section 2.4.1 of the NTS EIS. The five program areas are Defense, Waste Management, Environmental Restoration, Nondefense Research and Development, and Work for Others. A description of program projects and activities are described in Appendix A.

Comment Code: Private Citizen 46-28

Location of EIS Revision(s): None required

Response: Future water needs for a facility or project are determined by the engineering design criteria for that specific facility or project. The engineering design criteria take into consideration all processes that will be conducted, as well as the resource requirements for a project. The sum projected water use for all facilities or projects that are planned to be operating, at some future date, would determine the future water requirements.

Comment Code: Private Citizen 46-29

Location of EIS Revision(s): None required

Response: The decision to retain, reallocate, or dispose of special-use airspace presently delegated to the DOE for NTS activities will be based on current and future DOE and Nellis Air Force Base requirements and the Federal Aviation Administration's review of these requirements relative to national airspace system needs.

Comment Code: Private Citizen 46-30

Location of EIS Revision(s): Volume 2, Chapter 4, Section 4.11

Response: Incorrect text has been deleted, and clarification has been added. The DOE has recognized in previous responses, the location of the Area 13 in Lincoln and Nye Counties. The DOE has not however, taken any actions that would affect viewsheds in Nye or Lincoln Counties.

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Comment Code: Private Citizen 46-31

Location of EIS Revision(s): None required

Response: The *Resource Management Plan* deals with resources located on the NTS. Transportation of materials to the NTS is beyond the scope of the plan. The Transportation Protocol Working Group was established to facilitate discussion of transportation issues relating to the NTS. The DOE has met with the Transportation Protocol Working Group and will continue to meet three times each year to discuss these and other transportation issues.

Comment Code: Private Citizen 47-1

Location of EIS Revision(s): None required

Response: The DOE believes that the range of alternatives considered in this EIS bounds the alternative suggested. An entire spectrum of activities was evaluated, including the commentor's suggested activities. Section 3.2.4 provides more information on "Other Alternatives Within the Range of Alternatives Considered." Section 3.2.1 describes "Site Uses Defined by Program," other alternatives eliminated from consideration because the DOE needs a multiuse site that can support evolving missions.

Comment Code: Private Citizen 47-2

Location of EIS Revision(s): None required

Response: Non-radioactive chemicals will be included in present and future studies at the NTS. However, in 1992 the Secretary of Energy called for a fundamental shift in the DOE's waste generation and management policy from pollution control to pollution prevention. As a result, the DOE instituted a Waste Minimization and Pollution Prevention Program comprised of four main principles: source reduction, recycling, waste treatment, and disposal. If non-radioactive chemicals need to be used at the NTS, every effort will be made to use the principles identified above so that impacts from any of these materials can be mitigated. For example, the DOE has implemented effective recycling programs for steam-cleaning materials to recycle solvents. In addition, the DOE uses process modification for washing parts that completely eliminate the need for a hazardous material. The DOE also substitutes more environmentally friendly products for hazardous ones.

Should the DOE need to use a product that contains hazardous materials, and cannot employ any of the methods described above, the DOE will comply with existing environmental regulations. The DOE is committed to protecting the environment and public health, while securing cost savings through its waste minimization programs.

Comment Code: Private Citizen 47-3

Location of EIS Revision(s): None required

Response: Based on process knowledge from the testing operations, data from limited newly installed monitoring wells, annual data collected from all NTS potable water wells, and future volatile organic compound analysis (which includes trichloroethylene), specific trichloroethylene analysis is not planned for all water studies done at the NTS. Annual volatile organic compound analysis will be continued for all NTS potable water wells.

Comment Code: Private Citizen 47-4

Location of EIS Revision(s): None required

Response: Hazardous wastes that are stored on the NTS prior to on-site or off-site treatment are fully characterized and logged into the NTS waste-tracking database. The characterization data along with the location of the waste package are maintained in the facilities operating record and are subject to inspection by the Nevada Division of Environmental Protection.

Mixed waste and transuranic waste packages are placed in storage containers that are stored in the Transuranic Waste Storage building. The storage containers are tracked as to their location in the Waste Storage building and the cumulative contents of each container. The contents of many of the packages in the storage containers have not been fully characterized. These particular packages must be breached and analyzed to determine their contents. This activity, due to the presence of a radioactive component, must occur in a controlled area. As presented in the NTS EIS under Alternative 3, Appendix A, Section A.2.3.2, the DOE is planning to construct a Waste Examination Complex to provide a safe, environmentally protective facility to breach and sample these particular packages. As the contents of each package is determined, these data will be maintained in the facility's operating record.

Comment Code: Private Citizen 47-5

Location of EIS Revision(s): None required

Response: Storage of waste at the NTS is conducted in controlled areas with secondary containment, leak detection capabilities, and emergency response equipment. As new technologies are developed, their applicability to the NTS storage facilities are evaluated.

Comment Code: Private Citizen 47-6

Location of EIS Revision(s): None required

Response: For more than 45 years, the primary mission of the DOE, and its predecessor agencies, has been to produce nuclear weapons and to promote energy security and peaceful use of nuclear power. This resulted in the generation of a wide variety of radioactive and hazardous wastes. To reflect the changing priorities of our Nation, this mission has been refocused from weapons production to energy research, and environmentally

conscious technology development. One new and important focus of the DOE is the cleanup of previously generated waste, and the reduction of newly generated waste at all DOE sites.

In a memorandum dated August 20, 1992 (Watkins, 1992), the Secretary of Energy called for a fundamental shift in the DOE's waste generation and management policy from pollution control to pollution prevention. This was established to avoid or reduce the generation of hazardous substances, pollutants, wastes, and contaminants at the source; recycle or reuse pollutants which cannot be eliminated; treat the remaining waste to reduce volume, toxicity, or mobility before storage or disposal; and dispose of residual waste in an environmentally sound manner.

The DOE has made significant progress in establishing its waste minimization and pollution prevention program. In addition, a continuous effort will be made by the DOE to improve and expand this program. The DOE is committed to protecting the environment and public health, while securing cost savings for taxpayers through its waste minimization programs.

Comment Code: Private Citizen 47-7

Location of EIS Revision(s): None required

Response: The DOE, in accordance with the Pollution Prevention Act of 1990 and relevant DOE policies, has developed complex-wide waste minimization plans and programs to eliminate or minimize the generation of waste. As a result of this process, the Annual Report on Waste Generation and Waste Minimization Progress is prepared by the DOE (DOE/NV, 1992). This report provides a discussion of the DOE's progress in improving the management of its wastes.

In a memorandum dated August 20, 1992 (Watkins, 1992), the Secretary of Energy called for a fundamental shift in the DOE's waste generation and management policy from pollution control to pollution prevention. A waste minimization hierarchy, consistent with the Pollution Prevention Act of 1990, was established. This hierarchy includes the implementation of such practices as source reduction, recycling, waste treatment, and if necessary, residual waste disposal.

Specifically, neutralization is considered part of the treatment process. The DOE treats its wastes, whenever and wherever feasible, to change the physical, chemical, or biological character or composition of the waste to (a) render it non-hazardous; (b) safely transport, store, or dispose of it; (c) reduce its volume; or (d) recover energy or material resources from it.

The DOE is committed to protecting the environment and public health while securing cost savings for taxpayers through its waste minimization programs.

Comment Code: Private Citizen 47-8

Location of EIS Revision(s): None required

Response: Much work remains to be accomplished before environmental restoration criteria and standards can be established. Cleanup levels are established through a number of mechanisms. In some cases, these are defined by statute or regulation. In others, agreements with regulatory agencies establish the criteria. The DOE anticipates that many cleanup levels will be established through the land use planning process as

potential future uses are defined. This, in turn, will feed into the Federal Facility Agreement and Consent Order process. That process will include a complex risk evaluation. The Federal Facility Agreement and Consent Order requires the development of a Corrective Action Decision Document which will provide the rationale for the selected clean-up level based on investigation activities, costs, and risk to receptors based in conjunction with potential future land uses. Appendix V of the Federal Facility Agreement and Consent Order contains additional information on the methods for continually providing information and for actively seeking public input concerning DOE and DoD activities undertaken pursuant to the Agreement. Public participation objectives include working with the Community Advisory Board on specific Environmental Management issues, conducting public meetings for specific remediation activities, providing more opportunities for public interaction through planned outreach activities, increasing opportunities for the public to comment on important documents, and others. As the commentor notes, public debate has already commenced and will assist in eventually defining restoration criteria and standards.

Comment Code: Private Citizen 47-9

Location of EIS Revision(s): None required

Response: Any need by the DOE to reclaim returned lands would require a new withdrawal process. If the DOE decides to relinquish some of the NTS, the applicable Department of the Interior procedures, as well as DOE property-disposal regulations would be followed. As caretaker of the public lands, the Department of the Interior would have to accept the lands prior to redistribution to another entity.

Comment Code: Private Citizen 47-10

Location of EIS Revision(s): None required

Response: The DOE typically prepares site-wide EISs to analyze 5- to 10-year timeframes because the DOE believes that potential programs and projects planned for that far in the future are reasonably capable of being defined and analyzed. Environmental restoration of the NTS will take approximately 30 years to complete. Projects not completed or begun within the 5- to 10-year period will be completed in the ensuing decades.

Comment Code: Private Citizen 47-11

Location of EIS Revision(s): Figure S-1, Figure 4-1, Appendix H (Figure 1-1), and Appendix I (Figure 1-2)

Response: The figures have been revised to include Pahrump and Amargosa Valley.

Comment Code: Private Citizen 47-12

Location of EIS Revision(s): Summary

Response: The comment is correct, and the word "and" will be removed.

Comment Code: Private Citizen 47-13

Location of EIS Revision(s): None required

Response: Defense Program activities are assigned responsibility for weapons testing, which is the primary mission of the NTS. There are no plans to change this responsibility.

Comment Code: Private Citizen 47-14

Location of EIS Revision(s): None required

Response: The DOE estimated that it would take about 2 years to develop a *Resource Management Plan* because of the large number of resource issues included in the plan, and the extensive coordination required with other agencies.

Comment Code: Private Citizen 47-15

Location of EIS Revision(s): None required

Response: The amount of time required varies. The DOE missions are defined by the U.S. Congress and the president based on national priorities. Potential environmental impacts that could result from changes in missions will be assessed in compliance with the National Environmental Policy Act.

Comment Code: Private Citizen 47-16

Location of EIS Revision(s): None required

Response: The *Resource Management Plan* deals with resources available on the NTS. Discussion of the technologies required for existing and proposed missions is beyond the scope of the plan; however, if development and testing of waste management technologies is selected as a mission for NTS, the resources on the site required for that mission will be included in the *Resource Management Plan*. Transport of materials to the NTS is beyond the scope of the *Resource Management Plan*.

Comment Code: Private Citizen 47-17

Location of EIS Revision(s): None required

Response: The Emergency Response Team is considered an existing mission on the NTS. The resources required by that mission will be considered during development of the *Resource Management Plan* as described in Section 4.1 of the *Resource Management Plan*.

Comment Code: Private Citizen 47-18

Location of EIS Revision(s): None required

Response: According to Beatley (1976), about 125 species of plants on the NTS (about 12 percent of all plant species found on the NTS) are exotic species. An exotic species is one that did not evolve or originate on or in the region around the NTS. Most exotic species found on the NTS are Eurasian. Some of the most common are red brome (*Bromus rubens*), tumbleweed (*Salsola iberica*), stork's bill (*Erodium cicutarium*), and tumble mustard (*Sisymbrium altissimum*).

Comment Code: Private Citizen 47-19

Location of EIS Revision(s): None required

Response: Indian lands are not federal lands. Indian lands are all lands within the exterior boundaries of any Indian reservation or dependent Indian community. Federal lands are any lands (other than Indian lands) which are controlled or owned by the United States. The DOE has no information about the previous ownership of private lands.

Comment Code: Private Citizen 47-20

Location of EIS Revision(s): None required

Response: There have been studies conducted to characterize the invertebrate fauna on the NTS, but there has never been a requirement, nor has it been a priority, for the DOE to characterize invertebrate fauna well enough to determine if there are any species unique to the NTS. Step 4 of Section 2.1 includes a description of how the DOE will prioritize future data collection needs.

Comment Code: Private Citizen 47-21

Location of EIS Revision(s): None required

Response: Levels of radiation in game animals and potential health risks will be considered before hunting is ever allowed on the NTS.

Comment Code: Private Citizen 47-22

Location of EIS Revision(s): None required

Response: Section 3.3.3 of the *Resource Management Plan* states: goals will be selected based on appropriate timeframes so that long-term impacts can be adequately evaluated and mitigated, if possible. For example, to minimize land disturbances that will take long periods to recover, the DOE is adding a goal in Section 4.4 ("Land") to minimize disturbances of previously undisturbed land.

Comment Code: Private Citizen 47-23

Location of EIS Revision(s): None required

Response: The partnership list only contains one example, not a complete list of partnerships or groups with which the DOE must communicate. The DOE will strive to communicate with interested and affected governments such as Lincoln and Nye Counties. To avoid conflicts and development of mutually exclusive goals by different partnerships, the DOE will use the National Environmental Policy Act process to evaluate the impacts of its actions so that all interested parties will have an opportunity to influence the decisionmaking process. In the example cited by the commentor, the DOE would take appropriate actions under Federal Land Use Policy.

Comment Code: Private Citizen 47-24

Location of EIS Revision(s): None required

Response: The DOE has not identified the member requirements of the interdisciplinary team required to implement the *Resource Management Plan* and ecosystem management on the NTS. It is likely that it will include representatives from a variety of disciplines representing nearby land managers and other interested parties. The DOE will consider all comments received concerning the composition of this team.

Comment Code: Private Citizen 47-25

Location of EIS Revision(s): None required

Response: The risk assessments, which will be developed by the DOE, will identify the areas that are of greatest importance. The DOE will consider requests by the Community Advisory Board or other organizations for review of those risk assessments.

Comment Code: Private Citizen 47-26

Location of EIS Revision(s): None required

Response: The management actions described in this Plan can be modified as soon as changes are identified. The actions necessary to implement changes to the Plan may be constrained by available funding. The Plan will be reviewed and modified in accordance with the DOE's National Environmental Policy Act policy (10 CFR 1021) as described in Section 1.4. That process will include public participation.

Comment Code: Private Citizen 47-27

Location of EIS Revision(s): None required

Response: The *Resource Management Plan* will be used to evaluate the impacts of activities proposed in other EISs, as stated in Section 1.3.4. If new missions discussed in those EISs are selected for the NTS, their resource requirements will be added as described in Section 4.1.

Comment Code: Private Citizen 47-28

Location of EIS Revision(s): None required

Response: When land is withdrawn from public use and reserved for a federal purpose, the government's right to water is conveyed as an accompaniment to the withdrawal. As noted in the NTS EIS in Section 4.1.1.1, the NTS is on withdrawn land and jurisdiction is assigned to the DOE, a federal agency. The DOE expects to continue to be the responsible federal agency into the future and no change in the water rights is anticipated.

Comment Code: Private Citizen 47-29

Location of EIS Revision(s): None required

Response: Mining is not being considered under any of the alternatives of the NTS EIS. The NTS has been withdrawn from all appropriation under the public land laws, including mining and mineral leasing laws. If the DOE relinquishes land, it would be transferred to the Department of the Interior. The Department of the Interior would administer those lands according to appropriate federal land-use policies.

Comment Code: Private Citizen 47-30

Location of EIS Revision(s): None required

Response: The preferred alternative does not include any land releases. Should any land be designated for release in the future, it would be transferred to the Department of the Interior. The Department of the Interior would administer those lands according to appropriate federal land-use policies.

Comment Code: Private Citizen 47-31

Location of EIS Revision(s): None required

Response: Live air drops are possible as part of the Work for Others Program and defense-related research and development, under Alternatives 1 and 3, as described in Appendix A, Section A.5. Restrictions would be implemented over contaminated areas for military flights and operations to prevent resuspension of contaminated soils, and minimize impacts on existing and proposed missions. Additional restrictions may result from safety and hazard assessments conducted for specific activities.

Comment Code: Private Citizen 47-32

Location of EIS Revision(s): Chapter 4, Section 4.11

Response: Nye County was included only as one example of the local governments with which the DOE will cooperate. However, the DOE agrees that other counties and communities should be mentioned because they also may be affected. The text will be modified to mention other surrounding communities.

Comment Code: Private Citizen 47-33

Location of EIS Revision(s): None required

Response: Community Reuse Organizations have been established at various DOE sites. The Community Reuse Organization for the NTS is called the NTS Development Corporation; however, because it is a Community Reuse Organization, it will be labeled as such in this document.

Comment Code: Private Citizen 47-34

Location of EIS Revision(s): Appendix A, Sections A.4.1.3, A.4.3.3 and A.4.4.3; Chapter 3, Sections 3.1.3.4 and 3.1.4.4; and Chapter 5, Sections 5.1, 5.3.1.6, and 5.4

Response: The project identified by the commentor is the Alternative Fuels Demonstration Project. Under Alternatives 1, 3, and 4, the DOE would continue to support the 16 DOE-owned vehicles already converted to compressed natural gas, and continue developing a formal proposal for the conversion of the original manufacturer's equipment in the vehicle fleet. Under Alternative 3, the DOE would also construct a fueling facility for converted vehicles at the NTS. The DOE would further develop partnerships geared to study other alternative fuel and energy sources.

Comment Code: Private Citizen 47-35

Location of EIS Revision(s): None required

Response: If Alternative 4 is selected, the DoD would have to select another location for conventional weapons demilitarization activities.

Comment Code: Private Citizen 47-36

Location of EIS Revision(s): None required

Response: If the DOE decides to relinquish some of the NTS lands, the applicable Department of the Interior laws and regulations as well as DOE property disposal regulations would be complied with.

Comment Code: Private Citizen 47-37

Location of EIS Revision(s): None required

Response: The nuclear era museum is a potential project included under Alternative 4. Current conceptions of this museum would involve existing facilities used during aboveground and underground testing. No construction on the NTS is anticipated. Nye County has proposed an off-site museum and has requested DOE partnership.

Comment Code: Private Citizen 47-38

Location of EIS Revision(s): None required

Response: The DOE would most likely continue to provide free transportation to the NTS for DOE-sponsored field trips. The current health and safety constraints would continue to apply. Under Alternative 4, there would be no defense-related activities at the NTS, and therefore security would focus on prevention of damage to the property infrastructure and exclusion from contaminated areas. Field trips would present minimal impact to the security operations envisioned under Alternative 4.

Comment Code: Private Citizen 47-39

Location of EIS Revision(s): None required

Response: Public use of the Timber Mountain Caldera could only happen if the DOE relinquished land to the Department of the Interior. The Department of the Interior would then be responsible for managing those lands, and for providing services to the public using those lands, if the Department of the Interior makes the land available for public use. Currently, the DOE does not specifically monitor referenced petroglyphs, but remains committed to protecting cultural resources at the NTS.

Comment Code: Private Citizen 47-40

Location of EIS Revision(s): None required

Response: Activities such as car races were identified as alternative public uses of the NTS lands. Public activities on the NTS would be subject to appropriate environmental, safety, security, and health requirements.

Comment Code: Private Citizen 47-41

Location of EIS Revision(s): None required

Response: Activities such as foot or bicycle races were identified as alternative public uses of NTS lands. Under Alternative 4, public activities on the NTS would be subject to appropriate environmental, safety, security, and health requirements.

Comment Code: Private Citizen 47-42

Location of EIS Revision(s): Chapter 3, Section 3.2.2

Response: With updated work on the baselining process, this date has been changed to 2035. This date was derived from a consideration of several parameters and is driven by the schedule for the Underground Test Areas characterization work and associated model development. The only remediation activity excluded is remediation of the underground nuclear test cavities. The ending date is based on current funding levels of \$60 million per year. Reduced funding levels would cause the end date to move further out. Remediation levels were not accounted for in the calculation since they have not yet been determined. A timetable for

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discrete activities has been identified for 1996 through 2001. For 1996 through 1998, activities are defined, for 1999 through 2001 they are proposed, and beyond 2001 they are projected. The projection beyond 2001 is based on estimated Corrective Action Sites completed per fiscal year. As the extent of contamination is determined, these estimates will be refined.

Comment Code: Private Citizen 47-43

Location of EIS Revision(s): Chapter 2, Sections 2.5.6.1 and 2.5.6.2

Response: It is the nature of the subsidence craters that the radioactive contamination is largely contained in the immediate vicinity of the cavity, several hundred feet below the ground. Site characterization activities at Area 3 include drilling into the rubble zone leading between the disposal cavity and the surface, and taking samples for radioactive contamination. These samples are also analyzed for porosity, water content, and other characteristics to further understand how water passes through the underground environment. In addition, a monitoring system will be established to monitor beneath the disposal cell for evidence of radionuclide migration.

The disposal containers (the NTS does not refer to the waste containers as storage containers because they are not intended to be retrieved) are subject to disposal site requirements such as strength and size, and additional U.S. Department of Transportation packaging requirements for strong, tight containers carrying radioactive materials. These requirements ensure the safety of the package during transportation and handling. There are no specific criteria for disposal of containers in contaminated soil, because the containers are not being placed in contaminated soil.

It is soil moisture, not radioactive contaminants that cause the decomposition of the disposal container. Since the containers will eventually decompose, the risks are calculated using no container at all so that the model is calculated on a worst-case scenario. As mentioned above, the containers are subject to the U.S. Department of Transportation requirements that ensure safe shipping and handling of radioactive materials.

Comment Code: Private Citizen 47-44

Location of EIS Revision(s): None required

Response: With the natural drainage pattern restored, the water will flow into Yucca Lake, where it will be absorbed into the ground or evaporate.

Comment Code: Private Citizen 47-45

Location of EIS Revision(s): None required

Response: Groundwater taken from a limited number of wells during the Underground Test Area Project has been analyzed for volatiles, including tichloroethylene; however, Underground Test Area Project wells have not been drilled in Area 5. Monitoring wells have been drilled around the Radioactive Waste Management Site in Area 5. Analysis of these samples has not provided any indication of the presence of radioactive nor hazardous constituent (including trichloroethylene) contamination in the groundwater. Wells in Area 5 are sampled, and analyzed for hazards that could reasonably be expected, on a regular basis.

Comment Code: Private Citizen 48-1

Location of EIS Revision(s): None required

Response: The commentor's request for a copy of the Final NTS EIS has been noted.

Comment Code: Private Citizen 49-1

Location of EIS Revision(s): None required

Response: A cooperating agency may be any federal, state, or local agency other than the lead agency that has jurisdiction by law or special expertise with respect to environmental impacts expected to result from a proposal (40 CFR 1501.6). American Indian tribes are sovereign nations, not federal, state or local agencies. Four federal agencies and one local agency served as cooperation agencies with the DOE/NV: the DoD, the U.S. Air Force Base; the DoD, Defense Nuclear Agency; the Department of Interior, the U.S. Fish and Wildlife Service; the Department of Interior, Bureau of Land Management; and Nye County. The contribution of cooperating agencies is discussed in Chapter 8 of the NTS EIS.

Although American Indian tribes are not cooperating agencies in this EIS, the DOE believed it was important for these groups to participate in the preparation of the NTS EIS. One March 17-19, 1995, representatives of the Consolidated Group of Tribes and Organizations (CGTO) met with DOE/NV personnel. The CGTO recommended that two representatives from the Western Shoshone, Owens Valley Paiute, and Southern Paiute be appointed to write the American Indian perspective for the NTS EIS. Richard Arnold, executive director of the Las Vegas Indian Center, coordinated the activities of the American Indian Writers Subgroup. The DOE/NV accepted this recommendation, offering to compensate the writers for their services and travel expenses, and to provide the American Indian Writers Subgroup with the funding, technical assistance, and resources needed to write the American Indian perspective on the NTS EIS. The sections prepared by this group appear in italics where appropriate in the NTS EIS and also appear in Appendix G. Chapter 8 and Appendix G contain details of the coordination effort between the DOE/NV and the CGTO.

Comment Code: Private Citizen 49-2

Location of EIS Revision(s): None required

Response: See response to Comment Code Private Citizen 56-5.

Comment Code: Private Citizen 49-3

Location of EIS Revision(s): None required

Response: The DOE agrees with the commentor and will be evaluating the effect of groundwater contamination on Amargosa Valley and Death Valley through the hydrology monitoring program.

Comment Code: Private Citizen 49-4

Location of EIS Revision(s): None required

Response: The DOE agrees with the commentor and has programs in place that evaluate the risks to any water supplies in potentially affected areas. Las Vegas water supplies are not drawn from areas impacted by the actions at the NTS, thus no specific evaluations are planned.

Comment Code: Private Citizen 49-5

Location of EIS Revision(s): None required

Response: The DOE agrees with the commentor and has programs in place that continue to conduct field investigations and modeling to improve the understanding of the groundwater flow regime. Many of the actions considered within the NTS EIS will provide valuable new information.

Comment Code: Private Citizen 49-6

Location of EIS Revision(s): None required

Response: The DOE is required by their internal orders to establish site-level safety limits for the public, the environment, and the workers at each site where radioactive waste is disposed. These site-level safety limits are enforced by setting radionuclide concentration limits on a per-pit, trench, or subsidence crater basis. The DOE tracks waste volumes from each of their generators, and the quantities of waste placed in each disposal unit. They document how they are meeting these safety limits in the disposal site's performance assessment. The performance assessment contains information on the site hydrogeology and geology, as well as information on how radionuclides could be transported through the soil by liquid, vapor, or gas. The information in the performance assessment is continually updated for waste quantities and site-monitoring information on a periodic basis. The adverse impact from disposal of radioactive waste is a permanent removal of land from future use. There are no known long term or wide-spread effects beyond this permanent withdrawal of land. No contamination of the groundwater is expected.

Comment Code: Private Citizen 49-7

Location of EIS Revision(s): None required

Response: Contaminated sites have been identified and are the subject of ongoing site characterization. The existing information is included in this EIS. Several contaminated sites have already been closed as part of the Environmental Restoration Program, and others are being worked on at the present. The DOE is committed to the goal of remediating contaminated sites to ensure that risks to the environment and to human health and safety are either eliminated or reduced to protective levels. A description of Environmental Restoration Program activities can be found in Volume 1, Appendix A, Section A.3.

Specific investigations and risk assessments are being conducted for each corrective action unit (grouping of environmental restoration sites) located at the following sites: the NTS, the Nellis Air Force Range Complex, the Tonopah Test Range, Central Nevada Test Area, and the Project Shoal Area. These investigations and

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assessments will define the levels and extent of contamination, ascertain the potential human health or environmental exposure to the contamination, and compare the exposure to established standards for protection of human health and the environment.

Comment Code: Private Citizen 50-1

Location of EIS Revision(s): None required

Response: The commentor's recommendation that Alternative 2 be adopted is noted.

Comment Code: Private Citizen 51-1

Location of EIS Revision(s): None required

Response: Refer to the discussion in Section 1.2 of Volume 3.

Comment Code: Private Citizen 52-1

Location of EIS Revision(s): None required

Response: Support for closure of the NTS is noted.

Comment Code: Private Citizen 53-1

Location of EIS Revision(s): None required

Response: The size of the NTS is correct as written. In many places in the NTS EIS, the size has been rounded to the nearest 100.

Comment Code: Private Citizen 53-2

Location of EIS Revision(s): None required

Response: The DOE does not agree that other facilities need to be mentioned on this summary page. Facilities in other states were excluded because as stated in Chapter 1 Introduction, the scope of the NTS EIS includes only activities in Nevada.

Comment Code: Private Citizen 53-3

Location of EIS Revision(s): None required

Response: Subcritical experiments are part of the Stockpile Stewardship Program which is intended to assure the continued reliability of the nuclear weapons stockpile. The relationship of the NTS activities in support

of stockpile stewardship policies is discussed in Section 2.2 of the NTS EIS. Further discussion on the relationship of treaties to the Stockpile Stewardship Program is contained in Section 2.2, "National Security Policy Consideration," of the Draft Programmatic EIS for Stockpile Stewardship and Management.

Section 2.4 of the Draft Programmatic EIS for Stockpile Stewardship and Management states, "The United States has stopped the development and production of new design nuclear weapons."

Comment Code: Private Citizen 53-4

Location of EIS Revision(s): None required

Response: This bullet remains in place in the Final NTS EIS. The NTS is under consideration for a solar energy production facility.

The Alternative Fuels Demonstration Project is also underway, and could be expanded under Alternative 3.

Comment Code: Private Citizen 53-5

Location of EIS Revision(s): None required

Response: The DOE withdrew its Defense Programs Home Page from the World Wide Web on March 20, 1996. This action was in response to the discovery that part of the information from the Office of Research and Inertial Fusion came from a number of sources, some of which were badly out of date. From the information provided, it could be construed that the DOE nuclear weapons laboratories, contrary to currently stated policy, are presently investigating major changes to existing nuclear warheads, as well as new weapons designs.

The DOE has no requirement to design or produce new weapons and is not performing such activities. It is charged with preserving the safety and reliability of existing nuclear weapons and maintaining the capability to design new weapons, if requested by the DoD. The DOE's current Stockpile Stewardship project is fully described in the Draft Stockpile Stewardship and Management Programmatic EIS, dated February 1996 (DOE, 1996a).

Comment Code: Private Citizen 53-6

Location of EIS Revision(s): None required

Response: The DOE/NV is not being held responsible for waste management operations in other states. Some wastes that are generated at other DOE-approved facilities across the United States are transported to, and managed at, the NTS.

Comment Code: Private Citizen 53-7

Location of EIS Revision(s): None required

Response: The sentence conveys the meaning intended; that is, impacts will be minimized. Therefore, no textual change is required.

Comment Code: Private Citizen 53-8

Location of EIS Revision(s): None required

Response: The NTS EIS examines a 10-year planning period to be able to discuss both short-term (up to 5 years) and long-term (5 to 10 years) potential projects. However, the NTS EIS and the *Resource Management Plan* will be reviewed in five years from the publication of the *Record of Decision*, and every five years thereafter, according to DOE policy (10 CFR 1021). The "Affected Environment" section (Chapter 4) of this EIS presents current conditions at the NTS and its associated sites, including changes in resources that have occurred since the previous NTS EIS was published.

Comment Code: Private Citizen 53-9

Location of EIS Revision(s): None required

Response: The scope of the NTS EIS includes only those sites inside the state of Nevada where DOE is considering programmatic changes. This includes the NTS, the Tonopah Test Range, portions of the Nellis Air Force Range Complex, and the proposed Solar Enterprise Zone sites at the NTS, Dry Lake Valley, Eldorado Valley, and Coyote Spring Valley. The facilities located in Las Vegas and at Nellis Air Force Base are included in the NTS EIS as part of the programs they support. Many of the site support activities are discussed in Volume 1, Appendix A, Section A.6. Facilities outside of the state of Nevada are not within the scope of this EIS.

Comment Code: Private Citizen 53-10

Location of EIS Revision(s): None required

Response: Waste management strategies for remediation waste from the Nevada Environmental Restoration Projects, other than those located in Nevada, should not have been discussed in the *Implementation Plan for the Nevada Test Site Environmental Impact Statement* due to the lack of characterization data. These data must be obtained to determine the quantity, type, and disposition of any waste. The potential to generate waste is too speculative at this time and, therefore, this is not presented in the Final NTS EIS.

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Comment Code: Private Citizen 53-11

Location of EIS Revision(s): None required

Response: Activities at the off-site locations range from long-term monitoring to ongoing characterization and remediation. Local community involvement varies with the type and intensity of activity which is occurring. As projects move into the characterization and remediation phases, extensive involvement with state and local levels is implemented. At the local level, this is accomplished through public meetings, circulation of draft plans, and one-on-one discussions with those most affected and interested.

Required National Environmental Policy Act analysis and documentation is completed at the appropriate time and level (i.e., categorical exclusion, environmental assessment, or environmental impact statement) for the off-site locations, before work begins. Preliminary surveys for threatened and endangered species, flood plains and wetlands, and cultural resources have been completed for most of the off-site locations. As more work is planned for each site, any necessary additional levels of these surveys would be completed.

Comment Code: Private Citizen 53-12

Location of EIS Revision(s): None required

Response: As stated in Chapter 1, "Introduction," the scope of the NTS EIS includes only those sites inside the state of Nevada where DOE is considering programmatic changes. This includes the NTS, the Tonopah Test Range, portions of the Nellis Air Force Range Complex, and the proposed Solar Enterprise Zone sites at the NTS, Dry Lake Valley, Eldorado Valley, and Coyote Spring Valley. The facilities located in Las Vegas and at Nellis Air Force Base are included in the NTS EIS as a part of the programs they support. Many of the site support activities are discussed in Volume 1, Appendix A, Section A.6. Facilities outside the state of Nevada are not within the scope of this EIS.

Comment Code: Private Citizen 53-13

Location of EIS Revision(s): None required

Response: The intent of Figure 4-3 is to depict lands that were withdrawn for DOE use in connection with the NTS. As stated in the NTS EIS, lands withdrawn under Public Land Order 1662 are used by the DoD for their ongoing operations and are not considered in this EIS for any alternative use by the DOE.

Comment Code: Private Citizen 53-14

Location of EIS Revision(s): None required

Response: Figure S-1 and similar maps in the NTS EIS are drawn to a very large scale and are not intended to show precise boundaries.

Comment Code: Private Citizen 53-15

Location of EIS Revision(s): None required

Response: Figure S-1 and similar maps in the NTS EIS are drawn to a very large scale and are not intended to show precise boundaries. The boundary between the NTS and Pahute Mesa is shown on the more detailed maps in Chapter 3 of the NTS EIS.

Comment Code: Private Citizen 53-16

Location of EIS Revision(s): None required

Response: The DOE's missions on the NTS are decided by the U.S. Congress and the DOE, based on national priorities. Changes in mission will be made in compliance with the procedures of the National Environmental Policy Act. However, the DOE is also committed to minimizing its impacts on the natural resources of the NTS, as reflected in the Land- and Facility-Use Management Policy. By implementing this policy through the development of the *Resource Management Plan*, the DOE will attempt to balance protection of the natural environment on the NTS with its primary missions.

Comment Code: Private Citizen 53-17

Location of EIS Revision(s): None required

Response: See response to Comment Code Private Citizen 53-5.

Comment Code: Private Citizen 53-18

Location of EIS Revision(s): None required

Response: The text states that NTS serves as a "disposal site for low-level waste generated by DOE-approved generators and as a storage site for a limited amount of transuranic mixed waste." The amount of transuranic mixed waste stored on the Area 5 Transuranic Waste Storage Pad is limited to the current NTS inventory and transuranic waste generated as a result of on-site environmental restoration. There are no plans for additional transuranic waste storage capacity at this time.

Comment Code: Private Citizen 53-19

Location of EIS Revision(s): None required

Response: Section 2.4.2 acknowledges that classified waste is managed at the NTS. Please note that referring to a waste as "classified" denotes low-level waste weapons components and assemblies designated by the U.S. Government, pursuant to executive orders, statutes, or regulations that require protection against unauthorized information or material disclosure for reasons of national security. Additional security and safeguards management activities are required in the handling of these materials. In all other characteristics, this waste is similar in radionuclide content and physical makeup to the other waste accepted for disposal.

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The estimated volumes of classified low-level waste to be managed at the NTS are included in the estimates for low-level waste. The location of this waste is included in the analyses for the Radioactive Waste Management sites. Specifics regarding the amount for each radionuclide may be classified and are not available for publication in the sitewide EIS.

Comment Code: Private Citizen 53-20

Location of EIS Revision(s): Glossary (see Comment Code State Government 2-58)

Response: The following definition has been added to the Glossary as requested:

Protective levels are defined as those levels which would meet acceptable human health and risk factors based on future land uses, as established through the Federal Facility Agreement and Consent Order process.

The techniques to achieve protective levels would vary with respect to the type of site, contaminant(s), technology, and other factors which would be taken into consideration at the time remediation plans are being developed. The length of time that protective measures would need to be maintained is similarly dependent on the preceding factors. Consequently, closure techniques and their required duration are more appropriately identified and discussed when site-specific remediations are being developed.

Comment Code: Private Citizen 53-21

Location of EIS Revision(s): Summary, "Purpose and Need"

Response: Text has been added to this section to identify the Nevada Environmental Restoration Project. The documentation and references associated with this ongoing project are too numerous to mention in this EIS, and particularly in the Summary. However, the DOE maintains public reading rooms in which the documentation and references for the Environmental Restoration Program are located. The list of locations of the public reading rooms is in Appendix C, "Public Participation Meetings and Public Reading Rooms," for the *Implementation Plan for the Nevada Test Site Environmental Impact Statement*.

Comment Code: Private Citizen 53-22

Location of EIS Revision(s): None required

Response: The DOE's mission priorities are mandated by statute, Presidential direction, and Congressional authorization and appropriation to ensure that the DOE serves the nation's needs. However, Alternatives 2 and 4 assume the total or partial cessation of current activities at the NTS.

Comment Code: Private Citizen 53-23

Location of EIS Revision(s): None required

Response: Alternative 2 was added in response to comments received during the public scoping period. It also provides a lower bound for the range of alternatives that the DOE is considering, by enabling the DOE

to analyze the impact of not performing environmental restoration work in contrast to the alternatives that identify the impact of performing the work.

Comment Code: Private Citizen 53-24

Location of EIS Revision(s): None required

Response: The alternative selected for implementation by the DOE in the Record of Decision for this EIS, which may consist of a hybrid of the specific options evaluated for the various alternatives, will be adhered to. The Record of Decision will define the DOE and interagency programs, activities, and operations that will be implemented under the preferred alternative, and the mitigation measures, monitoring, or other conditions that are adopted as part of the DOE's decision. The DOE, like any other federal agency, is held accountable under the principles of federal administrative law, for carrying out the actions set forth in the Records of Decision. An agency must comply with its own decisions and regulations once they are adopted. In addition, implementation of specific programs, activities, and operations evaluated in this document may also be subject to further review under the National Environmental Policy Act.

Comment Code: Private Citizen 53-25

Location of EIS Revision(s): None required

Response: The maps are correct and reflect present and future planning zones for planned DOE activities at the NTS. As indicated in response to Comment Code Private Citizen 53-13, this area is presently being used by the DoD for ongoing operations and is not considered in this EIS for any alternative use by the DOE.

Comment Code: Private Citizen 53-26

Location of EIS Revision(s): Chapter 1, Section 1.4

Response: The comment concerning the continued use of Pahute Mesa by the DOE is noted. A statement has been added to Section 1.4 under "Nellis Air Force Range Complex EIS" that DOE operations on Pahute Mesa could be affected by decisions associated with the Nellis Range EIS.

Comment Code: Private Citizen 53-27

Location of EIS Revision(s): None required

Response: Past and present land use provide a baseline and a basis for projecting the impacts of the No Action Alternative. A range of other land uses are addressed in the other alternatives.

Comment Code: Private Citizen 53-28

Location of EIS Revision(s): None required

Response: Refer to Comment Code Private Citizen 53-19.

Comment Code: Private Citizen 53-29

Location of EIS Revision(s): None required

Response: Under Alternative 2, the DOE would discontinue the Waste Management Program after the NTS waste-generating activities are completely shut down. The DOE acknowledges that legal agreements, state and federal laws, and regulations may need to be changed to implement this alternative.

Comment Code: Private Citizen 53-30

Location of EIS Revision(s): None required

Response: The underground test areas on the NTS have been joined together as the Underground Test Area Corrective Action Unit. This was done because most of the tests were located in physically close groupings and are geographically related on the NTS and its groundwater systems. They are logically addressed together for funding, planning, and characterization purposes. The two off-site locations in Nevada as well as those in the other states are physically and hydrogeologically separated and would be characterized individually. Project Shoal is a separate Corrective Action Unit and the Central Nevada Test Area is being planned as two Corrective Action Unit, one applying to the underground aspects and the other to the surface contamination issues. Consideration is being given to a similar division at the other state offsites.

The reason for the transfer from the Comprehensive Environmental Response, Compensation, and Liability Act regulatory framework to the Resource Conservation and Recovery Act regulatory framework is that the Environmental Protection Agency deferred action on the DOE's Hazard Ranking System scoring package. Without action on the scoring package, there is no decision regarding listing of the sites on the National Priorities List. Therefore, the state has gained regulatory authority. The Environmental Protection Agency could, at any time, decide to evaluate the package. If the listing threshold were found to be exceeded, and the National Priorities List occurred, then a new agreement between the DOE, the state, and the Environmental Protection Agency would be negotiated.

Comment Code: Private Citizen 53-31

Location of EIS Revision(s): Table S-1, "Environmental Restoration," Alternatives 3 and 4
Table S-3, "Environmental Restoration," Alternatives 3 and 4

Response: The first statement is redundant and is removed from the Final NTS EIS.

Comment Code: Private Citizen 53-32

Location of EIS Revision(s): Table S-1, "Environmental Restoration," Alternatives 3 and 4
Table S-3, "Environmental Restoration," Alternatives 3 and 4

Response: The Central Nevada Test Area appears on the table in the Final NTS EIS.

Comment Code: Private Citizen 53-33

Location of EIS Revision(s): None required

Response: "Dipole Hail" and "Cut and Cover" are described in Appendix A in Section A.5.1.3.

Comment Code: Private Citizen 53-34

Location of EIS Revision(s): None required

Response: Airspace was identified as an issue in the *Implementation Plan for the Nevada Test Site Environmental Impact Statement* (DOE/NV 1995d). After analysis of input from the U.S. Air Force, DOE concluded that the continued use of this airspace by all parties would not result in adverse impacts.

Comment Code: Private Citizen 53-35

Location of EIS Revision(s): None required

Response: The DOE does not consider the inclusion of a detailed listing of other government agencies and contract information as necessary for a complete understanding of the impacts of program activities as they are described in the NTS EIS. The list of contracts and agreements is lengthy and can be provided if there is a request for the list. Such information can be provided by the Contract Management Division at (702) 295-3206.

Comment Code: Private Citizen 53-36

Location of EIS Revision(s): None required

Response: The discussion of site support activities is not intended to replace the discussion of the disposition of withdrawn lands. Rather, site support is an additional category of information analyzed in the NTS EIS. The concept of relinquishing certain NTS lands is considered part of Alternative 4.

Comment Code: Private Citizen 53-37

Location of EIS Revision(s): None required

Response: The concept of relinquishing certain NTS lands is considered in the analysis of Alternative 4. Please refer to the discussion in Section 1.8 of Volume 3.

Comment Code: Private Citizen 53-38

Location of EIS Revision(s): None required

Response: According to Public Law 99-606, the Secretary of the Interior can either accept or decline Air Force lands, such as Pahute Mesa, that have been contaminated by past DOE activities. Relinquishment of Pahute Mesa, however, was not considered in the Draft NTS EIS under Alternative 2 because this area will be examined in the upcoming EIS on the renewal of the withdrawal for the Nellis Air Force Range Complex.

Comment Code: Private Citizen 53-39

Location of EIS Revision(s): Chapter 3, Section 3.1.2

Response: The DOE does not intend to move any NTS activities to the Tonopah Test Range. Section 3.1.2.1, "Defense Program" under Alternative 2, is revised to indicate that activities would continue at the Tonopah Test Range.

Comment Code: Private Citizen 53-40

Location of EIS Revision(s): None required

Response: In many places in the NTS EIS, numbers have been rounded for convenience. Thus, the appropriate values are so noted. Restricted area 4808 is controlled (assigned to) by the DOE, as is R-4809. Both of the restricted areas are flight-controlled by the NAFR Complex. As such, this airspace is scheduled through the NAFR Group for use by the DOE and DoD.

Comment Code: Private Citizen 53-41

Location of EIS Revision(s): Summary, "Affected Environments"

Response: The sentence stating that the Project Shoal Area was returned to the U.S. Bureau of Land Management was in error and has been deleted from the text.

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Comment Code: Private Citizen 53-42

Location of EIS Revision(s): None required

Response: Please note that referring to a waste as "classified" denotes low-level waste weapons components and assemblies designated by the U.S. Government, pursuant to executive orders, statutes or regulations, that require protection against unauthorized information or material disclosure, for reasons of national security. Additional security and safeguards management activities are required in the handling of these materials. In all other characteristics, this waste is similar in radionuclide content and physical makeup to the other waste accepted for disposal.

The volume of the classified transuranic waste at the Area 5 Radioactive Waste Management Site is 54 cubic meters (m³) (71 cubic yards [yd³]) and is stored in 295 drums. The radioisotopes that contaminate the waste are uranium-235, plutonium-238, and plutonium-239. Please refer to Comment Code Private Citizen 53-19.

Comment Code: Private Citizen 53-43

Location of EIS Revision(s): None required

Response: The suggested rewording was reviewed but was not adopted because it did not improve the clarity or accuracy of the sentence.

Comment Code: Private Citizen 53-44

Location of EIS Revision(s): None required

Response: The suggested rewording was not adopted because it did not improve the clarity or accuracy of the sentence.

Comment Code: Private Citizen 53-45

Location of EIS Revision(s): None required

Response: The referenced inventory of remaining radioactivity is based on experimental data collected over a number of years. This information is discussed in Section 4.1.4.3 of Volume 1 in more detail.

Comment Code: Private Citizen 53-46

Location of EIS Revision(s): None required

Response: Table S-2 lists the remaining radionuclide inventory on the NTS, not the total radionuclides that were emitted during the history of operations. A detailed discussion of the original releases from atmospheric testing is provided in 4.1.4.3 of the NTS EIS. As noted in that discussion, the Office of Technology

Assessment reported that there were about 60 billion curies released during atmospheric testing at the NTS (decay corrected for 12 hours after the detonations).

Comment Code: Private Citizen 53-47

Location of EIS Revision(s): None required

Response: The suggested rewording was reviewed but was not adopted. Generic rather than specific, descriptions were used to identify "source or Radioactivity." The "Type of Area" described general uses of areas, not specific locations.

Comment Code: Private Citizen 53-48

Location of EIS Revision(s): None required

Response: Subsidence craters are formed when underground nuclear detonations create underground cavities into which the overlying soil and rock above the cavity then collapse. The final result is a crater on the surface. The text refers to "Test-induced subsidence crater" which describes the crater is an indirect result of the underground nuclear detonation.

Comment Code: Private Citizen 53-49

Location of EIS Revision(s): None required

Response: Table S-2 in the Draft NTS EIS presents a summary of remaining radioactivity at the NTS. Nuclear excavation experiments are included in Table S-2 under the category, "Shallow Borehole Tests."

Comment Code: Private Citizen 53-50

Location of EIS Revision(s): None required

Response: The suggested rewording was reviewed but was not adopted because the intent was to provide information on types of wastes and isotopes, not a complete listing.

Comment Code: Private Citizen 53-51

Location of EIS Revision(s): None required

Response: The suggested rewording was reviewed but was not adopted because the intent was to provide information on major types of wastes and isotopes, not a comprehensive listing that included estimated inventories.

Comment Code: Private Citizen 53-52

Location of EIS Revision(s): None required

Response: The distance from an underground nuclear test where groundwater is contaminated is highly variable, being primarily dependant on test yield, device working point, and the local hydrogeologic conditions. Nimz and Thompson (1992) describe locations where no contamination has been detected immediately next to, or immediately below, expended underground nuclear tests; however, they also document cases where contamination has been detected at distances greater than 305 meters (m) (1,000 feet [ft]) from the test locations. Therefore, replacing the term "immediate vicinity" with "within a 305 m (1,000 ft) radius" in the sentence, "Underground nuclear testing has resulted in contamination of groundwater within the immediate vicinity of a number of tests," was not done. The sentence, as written, conveys the inherent uncertainty associated with contaminant migration from underground nuclear tests.

The number of tests that have contaminated groundwater is not known. As discussed above, the distance contamination is found from a nuclear test depends on a number of highly variable factors. Given the large number of shots that were conducted below the water table, and those tests with cavities that intersect the groundwater table, a specific number of tests that have contaminated the groundwater cannot be estimated. The Underground Test Area Subproject is being conducted to better define the impacts of underground nuclear testing on the groundwater (refer to Chapter 4, "Radiologic Sources in Groundwater," for more information).

Comment Code: Private Citizen 53-53

Location of EIS Revision(s): None required

Response: The quality of the groundwater has been impacted in certain areas, but has not been destroyed. "Destroyed" implies that the groundwater will never be suitable for any use, present or future. Studies to date indicate that there is radioactive contamination present in the area of some of the underground tests; however, contamination levels range from very low to high. Even groundwater contaminated above drinking water standards would have other uses, such as industrial. No change will be made in the NTS EIS text.

Comment Code: Private Citizen 53-54

Location of EIS Revision(s): None required

Response: An estimate of the area within which groundwater was impaired was not provided. The response to comment Private Citizen 53-52 indicates the inaccuracy that would be associated with using a fixed radius of 305 m (1000 ft). The answer to comment Private Citizen 53-55 explains why estimates from sites out of Nevada are inappropriate.

Comment Code: Private Citizen 53-55

Location of EIS Revision(s): None required

Response: As stated in Chapter 1, Introduction, the scope of the NTS EIS includes only those sites inside the state of Nevada. This includes the NTS, the Tonopah Test Range, portions of the Nellis Air Force Range Complex, and the proposed Solar Enterprise Zone sites at the NTS, Dry Lake Valley, Eldorado Valley, and Coyote Spring Valley. This EIS does not address the sites in Mississippi, Colorado, and Alaska. Additional information regarding the two sites in central Nevada (Project Shoal and Central Nevada Test Area) can be found in Volume 1, Chapter 4, Sections 4.3 and 4.4, respectively.

Comment Code: Private Citizen 53-56

Location of EIS Revision(s): None required

Response: Lead and other heavy metals have been utilized in conjunction with underground nuclear tests. To date, however, there has been no evidence of pervasive problems with lead in the groundwater. Lead has a low solubility in alkaline waters and this undoubtedly contributes to its apparent lack of mobility at the NTS. All groundwater analyses have indicated lead or other heavy metal contaminants to be below Safe Drinking Water Act threshold levels. The Underground Test Area Subproject would continue characterization of the near-field environment and would be anticipated to detect any lead or other heavy metal contaminant migration which may exist.

Comment Code: Private Citizen 53-57

Location of EIS Revision(s): None required

Response: The sentence in question, "To date no radioactive contamination has been detected in on-site water supply wells or in off-site monitoring wells," is technically correct and has not been revised. Well UC-1-P-2SR is located on the Central Nevada Test Area. The well is what is called a reentry or postshot well; i.e., a well that is completed within the nuclear explosion cavity for the purpose of extracting melt sample from the detonation. Because it is within the explosion cavity, radioactive contamination would be expected.

The other sites referred to in the comment are not in Nevada and are consequently not within the scope of this EIS.

Although requested by the commentor, the sentence was not modified to say, "...contamination may start showing up, in some of the supply wells several decades from now." Presently, there are not sufficient data to support such a statement. Site-specific groundwater velocities, flow paths, and contaminant mobility are not well known. Information being gathered as part of the Underground Test Area Subproject may help fill these data gaps.

Comment Code: Private Citizen 53-58

Location of EIS Revision(s): None required

Response: The Underground Test Area Subproject is being conducted to better define the impacts of underground nuclear testing on the hydrologic regime of the NTS. Increased tritium in UE-5n is thought to be the result of a radionuclide migration experiment conducted near the well. Results of this study, and other wells with tritium, will be used by the Underground Test Area subproject to better understand testing impacts.

Comment Code: Private Citizen 53-59

Location of EIS Revision(s): None required

Response: Areas contaminated by past nuclear weapons testing will be excluded from public access for as long as these areas remain a hazard to health and safety.

Comment Code: Private Citizen 53-60

Location of EIS Revision(s): None required

Response: A detailed discussion about the inclusion of potential activities and operations in future NTS use alternatives that are viewed as inconsistent with the original purpose and use of the withdrawn lands is provided in Volume 3, Chapter 1, Section 1.4.

Comment Code: Private Citizen 53-61

Location of EIS Revision(s): None required

Response: Chimneys formed as the result of nuclear testing can be more or less permeable than the surrounding rock, depending on the original rock type. For example, chimneys in the volcanic tuff may result in rubble zones with enhanced permeability, whereas those in alluvium may result in reduced permeability because of compaction. Existing data discussed in Chapter 5 of Volume 1 shows that the permeability in the chimney is equal to or greater than the surrounding soils. Thus, the downward movement of material is not expected to occur. However, in no case could contaminated groundwater migrate up a chimney higher than the top of the water table owing to a lack of driving pressure.

Comment Code: Private Citizen 53-62

Location of EIS Revision(s): None required

Response: The report to which the commentor refers, "Evaluation of Groundwater Monitoring at Offsite Nuclear Test Areas, March 1991 (Chapman and Hokett, 1991)," discusses well location, construction, and hydrogeology and also provides recommendations for monitoring at eight off-site locations, two of which, the Central Nevada Test Area and the Shoal Project Area are covered by this EIS. This response is limited to the Central Nevada Test Area and the Shoal Project Area.

Central Nevada Test Area (the Faultless test): There are five monitoring points (four wells and a spring) at the Faultless site. Wells HTH-1 and HTH-2 are thought to be in the best position to detect the migration of contaminants from the Faultless test. These wells are closest to the test site (within a mile), are completed in the hydrologic unit intercepted by the event cavity, and are hydraulically downgradient from the test (Chapman and Hokett, 1991). Of the two remaining wells, one well is also downgradient; the spring and the fourth well may not be appropriately located in the flow system to monitor contaminants. Therefore, at the Faultless site, the two wells closest to the test appear to be quite suitable for monitoring contaminant migration.

Project Shoal Area: There are six monitoring points (five wells and a spring) near the Shoal site. There are a number of uncertainties regarding groundwater flow in the Shoal area. At present, only one well, HS-1, is thought to be in a position to intercept groundwater from the event cavity although it is several miles from the test. Additional hydrologic data needs to be gathered before a groundwater flow direction for the area can be determined.

To date, no radioactive contamination has been detected in any of the wells or springs used to monitor groundwater at the two sites. The need for further study at both sites to reduce hydrologic uncertainty will be determined through the Environmental Restoration subproject for each site.

Comment Code: Private Citizen 53-63

Location of EIS Revision(s): None required

Response: The "Contaminated Areas Report" has been provided to the commentor to supply information relative to his requests. This report contains information on the posted areas, sign types at these areas, and definitions of the signs. The information requested is far too detailed for a site-wide EIS and would needlessly contribute to the length of the document. Its inclusion would not affect the analysis nor the decision-making process. Any existing planned remediation actions for individual sites either have been or will be provided to the state for concurrence. As required in the Federal Facility Agreement and Consent Order, recently signed by the DOE and the state of Nevada, remediation actions for these sites will be jointly prioritized, developed, and approved.

Comment Code: Private Citizen 53-64

Location of EIS Revision(s): None required

Response: The most recent study of tritium migration from the Project Shoal Area was performed by Chapman et al. (1995). Because of uncertainties in the direction of groundwater flow near the Project Shoal Area, Chapman et al. performed calculations for both eastward and westward groundwater flow. Peak tritium concentrations were calculated at the eastern and western boundaries of the Project Shoal Area, where no public well currently exists, and at the nearest public wells. The results of this modeling are presented in Volume 1, Appendix H, Section 5.1 of the NTS EIS.

Comment Code: Private Citizen 53-65

Location of EIS Revision(s): Summary Page S-25, line 22-23

Response: The date and distance were changed in the Final NTS EIS.

Comment Code: Private Citizen 53-66

Location of EIS Revision(s): Summary

Response: The sentence referred to by the commentor has been revised for clarity. The purpose of this EIS is to provide an evaluation of the potential environmental impacts resulting from actions that could occur in the next 10 years. The benchmark to which future actions must be compared is the No Action Alternative. For the NTS EIS, the No Action Alternative is Alternative 1, in which current operations are continued. Changes in the environment that have resulted from past activities are included as part of this benchmark. The DOE has recognized that past activities have resulted in contamination of the environment. The Environmental Restoration Program, which is described in detail in Appendix A of this EIS, has been established to remediate contaminated sites.

The National Environmental Policy Act also requires the identification of unavoidable adverse effects. As discussed in the Summary and in Chapter 5, impacts resulting from conducting underground nuclear tests, if the DOE is so directed, remain the largest, unavoidable adverse effects of the management of the NTS. To minimize these unavoidable impacts, the DOE will continue to adhere to siting criteria for underground testing to ensure that radioactive contaminants from underground testing are contained (see Chapter 7, "Mitigations").

Comment Code: Private Citizen 53-67

Location of EIS Revision(s): None required

Response: The DOE believes that use of the word "but" draws the proper contrast between the presence of local impacts and the absence of offsite impacts. Therefore, the sentence will not be revised.

Comment Code: Private Citizen 53-68

Location of EIS Revision(s): Summary

Response: The referenced sentence refers to construction of new facilities, not the operation of existing facilities, such as the Lyner Complex. The sentence is accurate and has not been changed. However, as stated in Section 5.5.1.1 with regards to subcritical experiments in the Lyner Complex, "Irreversible effects would include the deposition of radiological material within and near the cavity mined in the subsurface." The text in the Summary under "Unavoidable Adverse Impacts" has been revised accordingly.

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Comment Code: Private Citizen 53-69

Location of EIS Revision(s): Summary

Response: The sentence indicated has been revised to indicate that some off-site impacts would occur but they would not be significant. Chapter 5 of the NTS EIS discusses the off-site impacts from construction-related traffic and air quality impacts from vehicles driven by construction workers commuting between the Las Vegas Metropolitan Area and the NTS. The impacts shown in Chapter 5 are now more clearly summarized in the Summary document.

Comment Code: Private Citizen 53-70

Location of EIS Revision(s): None required

Response: The DOE is in the process of declassifying information relating to past activities at the NTS. However, due to national and international security concerns, some material will necessarily remain classified.

Exact nuclear yields for all past tests are not essential for the proper evaluation of environmental impacts resulting from underground nuclear weapons testing at the NTS. The estimated total amount of radioactivity remaining from underground testing at the NTS is explained in Chapter 4, Section 4.1.5.2, and clarifying text has been added in response to other commentors.

The DOE is committed to performing the studies required under the Federal Facility Agreement and Consent Order to responsibly characterize the nature and extent of testing impacts.

Presently, the DOE Environmental Restoration Program is conducting a near-field drilling project involving the drilling of groundwater monitoring and characterization wells adjacent to expended underground nuclear weapons tests. The location of each well with respect to the explosion cavity is not restrained by the fear of revealing classified information, but instead by scientific, technical, and health and safety considerations. Other wells have been drilled into explosion cavities, and the groundwater contamination data from those wells is not restricted.

Section 4.1.5.2 has been expanded to explain the use of Defense Program source-term data by the Environmental Restoration Program. While the Environmental Restoration Program has full access to the data, it remains classified and is not available to the public. However, data remains available to those appropriately-cleared organizations and individuals having a need to know. In the past this has included representatives of the state of Nevada.

Comment Code: Private Citizen 53-71

Location of EIS Revision(s): None required

Response: The use of the word "level" in place of "quantity" in the following sentence, "The quantity of radioactivity remaining in the subsurface media can be estimated based on the half-life of the fission products," would make the sentence less clear. The word "level" could be misconstrued by the reader to mean depth below ground surface which is not what the sentence intends to convey.

Comment Code: Private Citizen 53-72

Location of EIS Revision(s): None required

Response: Section 4.1.5.2 states that, "Following the detonation, most of the metals are either vaporized or undergo neutron activation and are accounted for in the radionuclide inventory. The fate of the organic compounds and drilling fluids is not fully understood." No estimates are available concerning the total quantity of these materials that may still remain in the subsurface at the NTS. No accurate representation of the contents of these cavities is available; however, the Environmental Restoration Program at the NTS is in the process of assessing the occurrence and distribution of contaminants in the vicinity of expended nuclear tests.

Comment Code: Private Citizen 53-73

Location of EIS Revision(s): Chapter 4

Response: The estimate was based upon the best available unclassified information and there is nothing deceptive concerning either the estimate presented or the manner in which the estimate was developed. The presentation of material concerning specific radionuclides on a test-by-test basis is classified. A more detailed description of the methods used in developing the estimates has been added to Chapter 4 in response to other comments.

Comment Code: Private Citizen 53-74

Location of EIS Revision(s): None required

Response: As the commentor notes, some underground tests did vent radioactive materials, but as the NTS EIS states, surface contamination of the NTS was due primarily to atmospheric tests. Section 4.1.4.3 of Volume 1 discusses this in more detail.

Comment Code: Private Citizen 53-75

Location of EIS Revision(s): None required

Response: The sentence, "Additionally, safety tests conducted at the surface from 1954 to 1963 resulted in the radioactive contamination of the soil," is accurate and appropriate for the Summary. The intent of these tests was to determine the behavior (safety) of nuclear devices in an accident, not to disperse plutonium. More detailed discussions of these tests and resulting soil contamination, including numerous maps of plutonium contamination, are provided in Section 4.1.4.3.

Comment Code: Private Citizen 53-76

Location of EIS Revision(s): None required

Response: The commentor is correct. The radiologic source terms of almost all underground nuclear tests are classified—consequently, a meaningful, quantitative estimate of the radiologic source-term activity

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contained in underground cavities at the NTS cannot be prepared for this document. However, such a detailed inventory is not needed for an analysis. Data in Table 4-1, "Summary of remaining radioactivity on the NTS," and Table 4-7, "Remaining isotope inventory under or within 100 m (330 ft) of the water table," provide estimates of the radioactivity from deep underground testing. Examination of Table 4-1 shows the preponderance of radioactivity at the NTS is from underground testing—other sources are minor in comparison.

Table 4-1, "Summary of remaining radioactivity on the NTS," shows the remaining radioactivity from underground testing is four orders of magnitude greater than the remaining radioactivity contained in the dry-packaged, low-level and mixed waste now at the NTS. Assuming that the waste disposed in the future at the NTS will be comparable in activity to the low-level and mixed waste now at the NTS, radioactivity contained in the future waste will indeed be incremental to the radioactivity remaining from underground testing.

Comment Code: Private Citizen 53-77

Location of EIS Revision(s): None required

Response: A performance assessment is currently being conducted for Area 3. Section 2.5.6 provides the currently available information.

Comment Code: Private Citizen 53-78

Location of EIS Revision(s): None required

Response: The performance assessment process has developed scenarios that are used to evaluate the potential for public exposure to radionuclides from the disposed waste. The only scenarios that cannot be dismissed are the inadvertent intruder scenarios. Therefore, these limiting scenarios must be considered in establishing design, operation, closure, and waste acceptance criteria for the waste management facilities.

Comment Code: Private Citizen 53-79

Location of EIS Revision(s): None required

Response: The requirement to evaluate the performance of a disposal site for such a long period of time is based on the fact that the waste presents a long-lived hazard to human health. Predictions are made on the site specific peak dose to an individual that inadvertently comes in contact with the waste. These predictions are made per recommendations in the performance assessment guidance. The evaluation is performed regardless of the probability of inadvertent encounter with the waste after loss of institutional control.

Comment Code: Private Citizen 53-80

Location of EIS Revision(s): None required

Response: The comprehensive, detailed map that has been requested does not exist. The contaminated areas which may cause the disturbance are scattered throughout the NTS and the Tonopah Test Range. The sites

range in size and complexity from discarded lead-acid vehicle batteries to the plutonium-contaminated soil sites associated with the safety tests. The locations of those sites on the Nellis Air Force Range Complex (Area 13, Small Boy, and Double Tracks) have been noted in the NTS EIS. The requested description about why each piece of property is being restored is, in many cases, premature and not necessary to complete this EIS analysis. The reasons vary according to the regulatory driver and will be developed as the DOE and state of Nevada move through the Federal Facility Agreement and Consent Order process. The 10,000-acre figure is intended to be bounding, and it may eventually be determined that some sites may not be restored. Refer to Table 2-1, "Factors related to prioritization of Environmental Restoration Program activities," for a list of the factors which would be considered in developing the reasons for restoring or not restoring specific contaminated sites.

The request to identify what the restoration activity is expected to involve at each site is similarly, in many cases, premature and beyond the scope of this EIS. The site-specific restoration activity would be developed through the Federal Facility Agreement and Consent Order process and would be dependent on the reasons for restoring each site as well as the results of characterization activities which are yet to be performed. Restoration activities have been performed for a number of years at many of the contaminated NTS sites. The results of these past restoration activities are expressed cumulatively in the "Description of the Affected Environment" section of the NTS EIS (Section 4.0), which is the appropriate level of detail for a site-wide EIS.

Comment Code: Private Citizen 53-81

Location of EIS Revision(s): Appendix A, Volume 1

Response: The text has been changed in the NTS EIS to reflect the terms in the Federal Facility Agreement and Consent Order between the DOE and the state of Nevada, which was signed between publication of the Draft NTS EIS and the Final NTS EIS. This agreement establishes a process for defining cleanup levels which could include use of land in an unrestricted manner.

Comment Code: Private Citizen 53-82

Location of EIS Revision(s): None required

Response: Details regarding the Nevada Environmental Restoration Program are available from numerous documents available in the DOE public reading rooms. The progress made by the program is reflected cumulatively in the NTS EIS, Section 4.0, "Description of the Affected Environment." Adding the details and "numerous references" as requested is beyond the scope of a sitewide EIS such as this.

Comment Code: Private Citizen 53-83

Location of EIS Revision(s): None required

Response: Alternative 2, Discontinue Operations, was included in the NTS EIS in response to public comments received during the scoping period. The inclusion of this Alternative also allowed the DOE to analyze and compare a full range of use options for the NTS, including that of not conducting site restoration.

Comment Code: Private Citizen 53-84

Location of EIS Revision(s): None required

Response: The Summary presented in the NTS EIS provides a brief overview of the contents of the document. Detailed information on the Work for Others Program can be found in the Appendix A, to Section A.5.

Comment Code: Private Citizen 53-85

Location of EIS Revision(s): None required

Response: The commentor's recommended edit of the sentence is noted; however, this sentence is correct as it appears.

Comment Code: Private Citizen 53-86

Location of EIS Revision(s): None required

Response: The commentor's suggestions are appreciated, but this sentence is not revised in the Final NTS EIS. While the DOE acknowledges that tens of billions of curies were released after nuclear tests, the quantity of radioactivity drops by 3 orders of magnitude in 12 hours. Total remaining radioactivity from all underground nuclear testings is discussed in Chapter 4, Section 4.1.4.2, in the subsection entitled "Subsurface Radiological Sources." The hazardous materials were not mentioned in this summary sentence because of their relative unimportance when compared to the radioactivity. Following the detonation, most of the metals are either vaporized or undergo neutron activation and are accounted for in the radionuclide inventory. The fate of the organic compounds and the drilling fluids is less well known, and is currently under investigation under the Environmental Restoration Program.

Comment Code: Private Citizen 53-87

Location of EIS Revision(s): None required

Response: The environmental consequences of conducting one nuclear test far exceed the environmental consequences of conducting multitudes of dynamic tests and hydrodynamic experiments.

Chapter 5, "Environmental Consequences," describes all environmental impacts associated with all programs identified in the NTS EIS, including subcritical experiments discussed in the classified Appendix J.

Comment Code: Private Citizen 53-88

Location of EIS Revision(s): None required

Response: Appendix J is classified because it contains material quantities and design concepts associated with nuclear weapons that are classified by the DOE for nonproliferation and national security reasons. However,

the environmental impacts of activities associated with the Lyner Complex are unclassified, and are included in the environmental analyses presented in Chapter 5.

As stated in the state of Nevada's comments on the Draft NTS EIS: "A review of the classified appendix of the NTS EIS was undertaken by a qualified state official, and it was determined that the impact analyses of certain classified activities at the Lyner facility were incorporated in the overall evaluation of impacts assessed in the NTS EIS. The analyses of potential long-term impacts of classified activities to the vadose zone are representative of the analysis presented in the NTS EIS for other proposed defense testing activities at the site. In reference to potential human health and safety impacts associated with activities at the Lyner complex, the risk assessment for the Defense Assembly Facility (DAF) adequately bounds the potential above-ground risks and impacts."

Comment Code: Private Citizen 53-89

Location of EIS Revision(s): Summary, Table S-3

Response: The text referred to in the comment has been deleted. Table S-3 has been modified to indicate the amount of land devoted to various land uses under each alternative (i.e., industrial, weapons testing, etc.).

Comment Code: Private Citizen 53-90

Location of EIS Revision(s): Summary, Table S-3

Response: Table S-3 has been modified. See response to Comment Code Private Citizen 53-89.

Comment Code: Private Citizen 53-91

Location of EIS Revision(s): None required

Response: The Notice of Intent published in August of 1994 (refer to Volume 1, Appendix B) defined the scope of the analysis in this EIS. It did not include facilities or locations outside Nevada and it did not include the North Las Vegas facility or the Remote Sensing Laboratory. Both of those facilities have recently had National Environmental Policy Act documents published for them, and their addition to this EIS would not change the analysis for them.

Comment Code: Private Citizen 53-92

Location of EIS Revision(s): None required

Response: The non-Nevada facilities referred to in the comment are examined in other DOE National Environmental Policy Act documents. The scope of the NTS EIS is limited to DOE areas of interest in Nevada, as shown in the Summary on Figure S-1 and in Chapter 4 on Figure 4-1.

Comment Code: Private Citizen 53-93

Location of EIS Revision(s): Summary

Response: This statement is not reflective of Alternative 2. Under Alternative 2, the DOE would discontinue the Environmental Restoration Program, but would not turn the land back to public domain. As stated in Section 3.1.2, "Control of the NTS would be maintained by the DOE."

The sentence in question is revised in the Final NTS EIS to indicate that closure without environmental restoration may not meet agreements signed by the DOE and the state of Nevada, and may also violate state and federal laws.

Comment Code: Private Citizen 53-94

Location of EIS Revision(s): None required

Response: No decisions have been made regarding the location of facilities relating to the Solar Enterprise Zone projects. The NTS is still under consideration as a possible location for a solar energy facility.

Comment Code: Private Citizen 53-95

Location of EIS Revision(s): None required

Response: The buffer zones envisioned under Alternative 4 are simply prudent measures to guarantee the safety of the public if this alternative were to be implemented.

Comment Code: Private Citizen 53-96

Location of EIS Revision(s): None required

Response: Alternative 4 is described in a programmatic way. Providing detailed plans concerning the location of fences and other security measures associated with Alternative 4, and the effect of these security measures on the size of the turn-back area is beyond the scope of this EIS.

Comment Code: Private Citizen 53-97

Location of EIS Revision(s): Summary, Table S-3

Response: Table S-3 has been modified. See response to Comment Code Private Citizen 53-89.

Comment Code: Private Citizen 53-98

Location of EIS Revision(s): Summary, Table S-3

Response: The text referred to in the comment has been deleted. Table S-3 has been modified to indicate the amount of land devoted to various land uses under each alternative (i.e., industrial, weapons testing, etc.). Also, please refer to Section 1.4 of Volume 3.

Comment Code: Private Citizen 53-99

Location of EIS Revision(s): None required

Response: The qualitative statement in the Summary that a reduction would occur is sufficient. Refer to Section 5.2.1.1.2 for more details on airspace use.

Comment Code: Private Citizen 53-100

Location of EIS Revision(s): None required

Response: Restricted areas R-4808 and R-4809 are controlled by the DOE and are scheduled for use by the DOE and DoD. At a minimum, it is anticipated that current levels of DoD flight activity would continue.

Comment Code: Private Citizen 53-101

Location of EIS Revision(s): None required

Response: The decision to retain, reallocate, or release special-use airspace is made by the Federal Aviation Administration during its annual review process based on the stated needs of the agency that uses the airspace. The U.S. Air Force uses parts of the airspace over the NTS. Decisions to relinquish this airspace would be made through this process.

Comment Code: Private Citizen 53-102

Location of EIS Revision(s): None required

Response: Restricted area R-4808 has been delegated by the Federal Aviation Administration to the DOE, based on DOE requirements. Air traffic control responsibilities for this restricted airspace has been assigned to the Nellis Air Force Base. Any changes to the delegation and control of this airspace will be based on the Federal Aviation Administration's review of DOE and DoD current and future requirements.

Comment Code: Private Citizen 53-103

Location of EIS Revision(s): None required

Response: The decision to retain, reallocate, or dispose of special-use airspace presently delegated to the DOE for NTS activities will be based on current and future DOE and Nellis Air Force Base requirements and the Federal Aviation Administration's review of these requirements relative to national airspace system needs.

Comment Code: Private Citizen 53-104

Location of EIS Revision(s): None required

Response: The suggested revisions were not adopted because they may be inaccurate. The quantities of contaminated soils are not massive. Actions unrelated to testing will not result in soils being contaminated with plutonium. Refer to the discussion in Section 4.1.4.3 for greater detail.

Comment Code: Private Citizen 53-105

Location of EIS Revision(s): None required

Response: Table S-3 indicates that most impacts under Alternative 4 are less than those under Alternative 1.

Comment Code: Private Citizen 53-106

Location of EIS Revision(s): None required

Response: Present technologies and economics do not favor remediation of underground nuclear test cavities. For reasons of safety and security, the DOE would retain restrictions on access to and use of the deep subsurface for the foreseeable future. This would be true for all alternatives. It is the DOE's intention to address the issue of surface contamination for its sites in Nevada through the Corrective Action process established in the recently signed Federal Facility Agreement and Consent Order. Under this process, the Corrective Action would be based on potential future land uses. It is anticipated that the surface would be available for uses that range from unrestricted public uses to various levels of restriction.

Any remaining restrictions on public access to surface areas of the NTS would generally be instituted because of program requirements, not because of contamination. Text has been changed in the NTS EIS to reflect the range of anticipated availability in public access and use of the surface, and to clarify that in Alternative 2, as in all alternatives, the subsurface would remain restricted for the foreseeable future. In Alternative 2, no remediation of surface contamination would occur and areas with presently restricted human access would remain restricted.

Comment Code: Private Citizen 53-107

Location of EIS Revision(s): None required

Response: Historic underground testing altered the drainage paths and surface areas of portions of the NTS. The discussion in Table S-3 is with respect to testing that would be conducted under Alternative 1, not historic testing. The alterations to drainage paths is expected to be minimal because the anticipated scale of possible testing is substantially less than historic levels.

Comment Code: Private Citizen 53-108

Location of EIS Revision(s): None required

Response: Recent studies of the Death Valley groundwater flow system have concluded that the recharge rate may be appreciably higher than originally estimated. The perennial yield of a basin is defined as that quantity of water that can be removed from a basin on an annual basis without undesirable impacts. There are still large areas within Yucca Flat where uncontaminated groundwater can be withdrawn without resulting in an undesirable impact.

Comment Code: Private Citizen 53-109

Location of EIS Revision(s): None required

Response: The location, figuration, and water-use requirements for the Solar Enterprise Zone (or zones), have not yet been fully defined, but the goal of the Corporation for Solar Technology and Renewable Resources is still to facilitate the construction and operation of 1000 megawatts of solar generation in southern Nevada. The water-use estimates are still preliminary and represent a worst-case evaluation for the purposes of evaluating the potential impacts of the proposed action. There has been no decision made concerning the location of the zone (or zones) and the NTS remains a candidate. There is no conflict of interest with respect to a Solar Enterprise Zone.

Comment Code: Private Citizen 53-110

Location of EIS Revision(s): None required

Response: The volume of water used for dust control is not large; water use for waste management under Alternatives 1, 3, and 4 ranges from 80,176 to 259,031 cubic meters per year (m^3/yr) (65 to 210 acre-feet per year [$ac\ ft/yr$]) for all purposes, including dust control. The impacts of surface water drainage controls have an insignificant effect on the runoff of the basins in which the waste management facilities are located.

Comment Code: Private Citizen 53-111

Location of EIS Revision(s): None required

Response: The selection of sites for storage or disposal of radioactive waste requires careful consideration of a number of factors, the most important being public health and safety. The DOE published a *Draft Waste Management Programmatic EIS* for managing the treatment, storage, and disposal of radioactive and hazardous waste in August 1995 (DOE, 1995c). That document discusses the need for transportation of waste over long distances and the impacts of such transportation. Although fuel usage is an important issue alone, it is a minor impact when other impacts are taken into consideration. The NTS EIS analyzes the human health risks and accident risks from long distance transportation, but the fuel usage is considered to be negligible in the context of nationwide use of fuel. The health impacts of vehicle exhaust emissions has been analyzed and is included in the Final NTS EIS.

Comment Code: Private Citizen 53-112

Location of EIS Revision(s): None required

Response: Analysis of environmental impacts associated with the consumption of fossil fuels is contained in the baseline environmental analysis sections in Chapters 4 and 5. The nonradiological risk to human health from emissions during transportation operations has been added to Appendix I.

Comment Code: Private Citizen 53-113

Location of EIS Revision(s): None required

Response: Under Alternative 2, the workforce supporting the NTS would drop to 86 persons, who would be involved solely in site support activities. The duration of employment for this caretaker workforce is unknown. This EIS only addresses the next 10 years. In compliance with DOE policy, the impact of the NTS programs would be re-evaluated every five years.

Comment Code: Private Citizen 53-114

Location of EIS Revision(s): None required

Response: The referenced statement in Table S-3 is made with respect to areas of surface contamination which, if not restored, will result in a continued threat to groundwater. The statement does not refer to the deep subsurface contamination in the underground testing areas.

Comment Code: Private Citizen 53-115

Location of EIS Revision(s): None required

Response: The suggested change was reviewed but was not adopted because the DOE believes it is inaccurate. The effects of individual underground tests are localized, not regional.

Comment Code: Private Citizen 53-116

Location of EIS Revision(s): None required

Response: The DOE disagrees. As discussed in Section 4.1.4.2 and Section 5.1.1.4 of Volume 1, the effects of individual underground tests are localized.

Comment Code: Private Citizen 53-117

Location of EIS Revision(s): None required

Response: The suggested change was reviewed but was not adopted because the DOE believes it is inaccurate. There are no monitoring exclusion zones at the NTS. The definition of contamination in the underground testing areas is a focus of the DOE's Environmental Restoration Program with a primary emphasis on the drilling and monitoring of new characterization wells.

Comment Code: Private Citizen 53-118

Location of EIS Revision(s): None required.

Response: The proposed actions also include the restoration of the disturbed areas through regrading and revegetation. The overall impacts will be minimal and will result in the restoration of resource values for an area that would otherwise be irretrievably lost as a natural resource.

Comment Code: Private Citizen 53-119

Location of EIS Revision(s): None required

Response: The transfer of NTS activities to the Tonopah Test Range is not an alternative being considered under the NTS EIS.

Comment Code: Private Citizen 53-120

Location of EIS Revision(s): Summary

Response: This text has been deleted from the table.

Comment Code: Private Citizen 53-121

Location of EIS Revision(s): Summary

Response: The text of the NTS EIS has been modified to indicate that the geologic media is contaminated and that the groundwater is contaminated.

Comment Code: Private Citizen 53-122

Location of EIS Revision(s): None required

Response: The term "unavailable for use" as used in the sentence "At the Project Shoal Area and Central Nevada Test Area, geologic media and groundwater contaminated by radionuclides would remain contaminated and unavailable for use" means that groundwater and subsurface geologic media contaminated cannot be used beneficially at the present time without remediation. Present technologies and economics do not favor remediation of underground nuclear test cavities. The sentence is technically correct and will not be modified.

The NTS EIS is intended to support, not supplant, decisionmaking regarding land use at a given geographic location. The document examines existing and potential environmental impacts that have resulted, or could result, from current and future DOE operations in Nevada over the next 10 years. At present, administrative controls imposed by the DOE are used to restrict subsurface access to the Project Shoal Area and Central Nevada Test Area; future administrative controls have not been decided upon. Therefore, no additional information has been added to the NTS EIS regarding availability and future administrative controls for the Project Shoal Area and the Central Nevada Test Area.

Comment Code: Private Citizen 53-123

Location of EIS Revision(s): None required

Response: The sentence conveys the meaning intended. "Giant" is a very subjective term; therefore, its use is inappropriate. The second sentence is correct as is. Therefore, no textual change is required.

Comment Code: Private Citizen 53-124

Location of EIS Revision(s): None required

Response: The DOE agrees that the loss of desert tortoises and their habitat would be minuscule under Alternative 2. It was assumed that some level of DOE security, environmental monitoring, and associated vehicular traffic would be conducted on the NTS under all alternatives, but that this activity would be minor and insignificant in its impact on desert tortoises even under Alternative 3. Therefore, this one activity was only mentioned in Alternative 2 to indicate that minimal DOE activity could still result in the take of this threatened species. The text of the Final NTS EIS was not altered as recommended.

Comment Code: Private Citizen 53-125

Location of EIS Revision(s): None required

Response: "Extensive" is a subjective term and its use would not add to the analysis in the NTS EIS. The areal extent of contamination, as compared to the areal extent of the Tonopah Test Range, is not large (reference Section 4.2, Tonopah Test Range). The contamination referred to includes Resource Conservation and Recovery Act type materials in addition to the plutonium-contaminated soils; therefore, the changes which the commentor suggests would be inaccurate. The quantities of plutonium involved are not germane to the

analysis. Soil concentrations are important when it comes to remediation. Studies are ongoing at all of the plutonium-contaminated soil sites, including those on the NAFR Complex, to determine the nature, extent, and concentration of the contamination. These studies also address the issue of the best technology to utilize as well as reclamation requirements.

Comment Code: Private Citizen 53-126

Location of EIS Revision(s): None required

Response: Alternative 2, Discontinue Operations, was included in the NTS EIS in response to public comments received during the scoping period. The inclusion of this alternative also allowed the DOE to analyze and compare a full range of use options. In the Final NTS EIS, the DOE identifies Alternative 3 plus the public education activities of Alternative 4 as the Preferred Alternative.

Comment Code: Private Citizen 53-127

Location of EIS Revision(s): None required

Response: The phrase "geologic media" in the sentence, "At the Project Shoal and Central Nevada Test Area, geologic media and groundwater contaminated by radionuclides would remain contaminated and unavailable for use" is technically correct. The term "massive quantities" is undefined and adds nothing to the clarity of the summary. Therefore, the sentence was not revised.

Comment Code: Private Citizen 53-128

Location of EIS Revision(s): None required

Response: Refer to response to Comment Code Private Citizen 53-122.

Comment Code: Private Citizen 53-129

Location of EIS Revision(s): Summary

Response: The text has been modified to reflect that Alternative 3 impacts, while similar to those of Alternative, 1 would be greater.

Comment Code: Private Citizen 53-130

Location of EIS Revision(s): None required

Response: Chapter 4, "Affected Environments," describes the current condition of the NTS. Chapter 5, "Environmental Consequences," describes the impacts of the four alternatives. The DOE has used this impact analysis to design mitigation measures to minimize environmental impacts resulting from DOE missions and activities mandated by statute, Presidential direction, and Congressional authorization and appropriation.

Comment Code: Private Citizen 53-131

Location of EIS Revision(s): None required

Response: No decisions have been made regarding the location of facilities relating to Solar Enterprise Zone projects. The NTS is still under consideration as a possible location for a solar energy facility.

Comment Code: Private Citizen 53-132

Location of EIS Revision(s): None required

Response: As defined in Alternative 4, no Defense Program activities at the NTS would be transferred to the Tonopah Test Range. Therefore, the sentence, "The unavoidable adverse impacts to the Tonopah Test Range from DOE/NV activities associated with Alternative 4 would be similar to those for Alternative 1," is correct as written.

Comment Code: Private Citizen 53-133

Location of EIS Revision(s): None required

Response: The comment has been noted; however, there are also recent publications by PAL Consultants (1995) and D'Agnese (1994) that suggest that recharge rates may be appreciably higher. The DOE, in conducting evaluations for the NTS EIS used the planning numbers currently used by the Nevada Division of Water Resources, the agency governing water use in Nevada.

Comment Code: Private Citizen 53-134

Location of EIS Revision(s): Summary

Response: The statement in the Summary on page S-44, line, as written in the Draft NTS EIS, allows a reader to mix definitions of "siting criteria" and "containment" associated with underground testing in the Defense Program with definitions of "Siting" and "Containment" used in addressing the Waste Management Program (Summary: Page S-44, line 2-4).

Appendix A, Section A.1.1.1.2-Underground Nuclear Weapons Testing, page A-2 defines "siting criteria" and "containment" in the context of underground nuclear weapons testing. In this context, "...complete containment... is a dominant consideration in nuclear test operations." The DOE Containment Evaluation Panel reviews the proposed nuclear test to ensure each containment design is one that will provide reasonable assurance of satisfactory containment of radioactivity or release of radioactivity only under controlled conditions in compliance with all treaty constraints and under health and safety guidelines established by the Secretary of Energy. Satisfactory containment means a test that results in no radioactivity off site measurable by normal monitoring equipment and no unanticipated release of radioactivity on site. "Siting" in this context means selection of an existing or new site for a drill hole for a specific event. The Containment Evaluation Panel considers "siting" (the location of the emplacement site) as a part of its detailed review of containment design (siting criteria). The composition of the Containment Evaluation Panel is described in Appendix A, page A-3.

Comment Code: Private Citizen 53-135

Location of EIS Revision(s): None required

Response: The DOE recognizes that even with implementation of the "siting criteria" established for underground nuclear weapons testing that adverse impacts from such tests are unavoidable (see Volume 1, Chapter 5.5, Unavoidable Adverse Impacts). This condition was also recognized in the *Final Environmental Impact Statement, Nevada Test Site, Nye County, Nevada* (ERDA, 1977). Satisfactory containment under these siting criteria means a test that results in no radioactivity off site measurable by normal monitoring equipment and no unanticipated release of radioactivity on site.

Comment Code: Private Citizen 53-136

Location of EIS Revision(s): None required

Response: The DOE Containment Evaluation Panel reviews the proposed nuclear test to ensure each containment design is one that will provide reasonable assurance of satisfactory containment of radioactivity or release of radioactivity only under controlled conditions in compliance with all treaty constraints and under health and safety guidelines established by the Secretary of Energy. Satisfactory containment means a test that results in no measurable radioactivity off site by normal monitoring equipment and no unanticipated release of radioactivity on site. While the effect on groundwater of underground tests detonated in or near the water table remain to be determined, any contamination in excess of regulatory levels would mean the unavoidable long-term unavailability of the affected water. As a result, on-site and select off-site wells are monitored for select radionuclides and in accordance with the Safe Drinking Water Act and the Nevada Administrative Code Regulations. Additionally, the state of Nevada performs independent monitoring. Analytical results for all monitoring activities are published in the DOE's *Annual Site Environmental Reports*.

Comment Code: Private Citizen 53-137

Location of EIS Revision(s): None required

Response: The six existing NTS groundwater monitoring programs, described in Section 4.1.5.2, "Monitoring Programs," provide a historical record of the effectiveness of the physical and administrative (institutional) controls in place at the NTS. Analytical results for all monitoring activities are published in the DOE's *Annual Site Environmental Reports*. The history of institutional controls at sites in Mississippi, Colorado, Alaska, and New Mexico are not included because as stated in Chapter 1 Introduction, the scope of the NTS EIS includes only those sites in Nevada.

Comment Code: Private Citizen 53-138

Location of EIS Revision(s): None required

Response: Refer to response to Comment Code Private Citizen 53-88.

Comment Code: Private Citizen 53-139

Location of EIS Revision(s): None required

Response: In order to present as much information as possible, text changes have been made to Chapters 2, 3, 4 and Appendix A, and the Glossary to further clarify the nature of these subcritical experiments conducted at the NTS. While the precise nature of the Lyner Complex, experiments, and the source terms in Appendix J are classified for national security reasons, the environmental impacts are unclassified and were included in Chapter 5 of the Draft NTS EIS as well as the Final NTS EIS (see response to Comment Code Organization 8-3 for specific sections). These data are also included in Chapter 6, Cumulative Impacts. Similar data from past subcritical experiments are included in Chapter 4, Affected Environments, including Sections 4.1.4.2 and 4.1.4.3.

Comment Code: Private Citizen 53-140

Location of EIS Revision(s): Table of Contents, Volume 1, Part A, and Part B

Response: The NTS EIS has been revised to include Appendix J in the Table of Contents for Volume 1, Parts A and B.

Comment Code: Private Citizen 53-141

Location of EIS Revision(s): None required

Response: Section 4.4.1, "Land Use," states, "The Central Nevada Test Area was obtained by the Atomic Energy Commission for the purpose of developing potential alternative sites for nuclear testing activities."

Comment Code: Private Citizen 53-142

Location of EIS Revision(s): None required

Response: The figure S-1 of the Summary shows the areas of interest that are examined in the NTS EIS. Lands withdrawn for the DOE by Public Land Order 1662 are not considered in any alternative use by the DOE and are therefore not addressed in this EIS. Other facilities owned by DOE are not shown for the same reason; they are not areas of interest and are not considered in any alternative use by the DOE within this EIS.

Comment Code: Private Citizen 53-143

Location of EIS Revision(s): None required

Response: Refer to Comment Code Private Citizen 53-142.

Comment Code: Private Citizen 53-144

Location of EIS Revision(s): None required

Response: At the time this EIS was prepared, the requirement for an Implementation Plan was part of the DOE regulations. It is acknowledged that there is a proposal to change the regulations that will make the Implementation Plan optional. The changes to the regulations have not been published in the *Federal Register* as final regulations; thus, no change is made in the NTS EIS.

Comment Code: Private Citizen 53-145

Location of EIS Revision(s): Volume 2, Section 1.3

Response: This sentence refers to information about facilities and infrastructure. The text has been changed to clarify this.

Comment Code: Private Citizen 53-146

Location of EIS Revision(s): None required

Response: The text has been modified to clarify that this sentence refers to facilities and infrastructure. Refer to response to Comment Code Private Citizen 53-145. The purpose of the Environmental Restoration Program is to characterize and remediate, if necessary, contaminated sites on the NTS. The Underground Test Area subproject is specifically designed to reduce the uncertainties pertaining to contaminant migration in groundwater associated with underground nuclear tests.

Comment Code: Private Citizen 53-147

Location of EIS Revision(s): None required

Response: The NTS Technical Site Information (RSN, 1994) describes improvements planned for existing missions. However, it does not include proposals for missions at the NTS that have not yet been approved.

Comment Code: Private Citizen 53-148

Location of EIS Revision(s): None required

Response: The NTS Technical Site Information (RSN, 1994) contains the DOE's best information about existing and planned facilities and infrastructure. This document is available to the public.

Comment Code: Private Citizen 53-149

Location of EIS Revision(s): None required

Response: The goal for existing missions applies to the resource requirements of all missions approved for the NTS and does not reflect the desire for any specific, future missions on the NTS.

Comment Code: Private Citizen 53-150

Location of EIS Revision(s): Volume 2, Section 1.3

Response: The DOE agrees that the Draft NTS EIS text was confusing. The text has been modified to make it consistent with Section 2.1, Step 6 of Volume 2 (*Framework for the Resource Management Plan*).

Comment Code: Private Citizen 53-151

Location of EIS Revision(s): None required

Response: The various ways that stakeholders can participate in the decisionmaking process are described throughout Volume 2, such as in Sections 1.3, 1.6, 2.1, 3.3.4, and 4.0. The DOE notes this commentor's interest in access to information using the Internet and is working to improve the availability of information on that system. Source documents used to develop the NTS EIS are available to the public. These will be the primary sources of information used to develop the *Resource Management Plan*.

Comment Code: Private Citizen 53-152

Location of EIS Revision(s): None required

Response: As described in Sections 2.1 (Step 3), Section 3.3.4, and Section 3.3.5, an interdisciplinary team, which will include environmental scientists, tribal representatives, and other interested and affected groups, will assist in identifying management actions needed for wise resource use and sound ecosystem management. However, ultimate responsibility for this site has been assigned by Congress to the DOE.

Comment Code: Private Citizen 53-153

Location of EIS Revision(s): None required

Response: The intent of all the figures including maps in this EIS are to depict the correct and most current information for activities and uses by the DOE for their mission. In reference to Figure 4-3, the intent of this figure is to depict lands that were withdrawn for DOE use in connection with the NTS. As stated in the NTS EIS, lands withdrawn under Public Land Order 1662 are used by the DoD for their ongoing operations and are not considered in this EIS for any alternative use by the DOE.

Comment Code: Private Citizen 53-154

Location of EIS Revision(s): Volume 2, Section 4.0

Response: The DOE agrees that the cancellation of a proposed mission is a possible solution and has modified the NTS EIS text to reflect that.

Comment Code: Private Citizen 53-155

Location of EIS Revision(s): None required

Response: Uses of the NTS are selected through strategic planning processes such as the NTS EIS. If the alternative use suggested by the commentator is selected through those processes, the resource requirements of that use will be incorporated into the *Resource Management Plan* as indicated in the goals in Section 4.1.

Comment Code: Private Citizen 53-156

Location of EIS Revision(s): None required

Response: Refer to response to Comment Code Private Citizen 53-140.

Comment Code: Private Citizen 53-157

Location of EIS Revision(s): None required

Response: Chapter 5, "Environmental Consequences," describes all environmental impacts associated with all programs described in the NTS, including subcritical experiments described in the classified Appendix J. Refer to response to Comment Code Private Citizen 53-139.

Comment Code: Private Citizen 53-158

Location of EIS Revision(s): None required

Response: See response to Comment Code Private Citizen 53-140.

Comment Code: Private Citizen 53-159

Location of EIS Revision(s): None required

Response: The legal action taken by the state of Nevada against DOE regarding NEPA compliance for the NTS is discussed in the introduction to Chapter 1 of Volume 1. That discussion indicates that DOE had decided to prepare this EIS prior to the filing of the State's complaint.

Comment Code: Private Citizen 53-160

Location of EIS Revision(s): None required

Response: See response to Comment Code Private Citizen 53-176.

Comment Code: Private Citizen 53-161

Location of EIS Revision(s): None required

Response: See response to Comment Code: Private Citizen 53-19.

Comment Code: Private Citizen 53-162

Location of EIS Revision(s): None required

Response: The DOE's stated need for a multipurpose facility to support evolving DOE missions does not lock the DOE into recent historical uses. Mission priorities are mandated by statute, Presidential direction, and Congressional authorization and appropriation. These reviews ensure that the DOE serves the nation's needs.

Comment Code: Private Citizen 53-163

Location of EIS Revision(s): None required

Response: In this sentence, "This" refers to current Bureau of Land Management policies and regulations.

Comment Code: Private Citizen 53-164

Location of EIS Revision(s): None required

Response: The state of Nevada's lawsuit against the DOE is discussed in the Introduction to Chapter 1. Refer to Section 1.4 of Volume 3 for a discussion of the use of withdrawn lands for purposes other than testing.

Comment Code: Private Citizen 53-165

Location of EIS Revision(s): None required

Response: There are numerous areas within the NTS and the Nellis Air Force Range Complex where classified activities are conducted by both the DOE and DoD. Access to and information on these operations is prohibited. The latest general agreement governs all interaction between the DOE and DoD for operations on the NTS and the NAFR Complex.

Comment Code: Private Citizen 53-166

Location of EIS Revision(s): None required

Response: The scope of the NTS EIS is limited to DOE areas of interest in the state of Nevada as defined in the August 1994 Notice of Intent and as shown on Figures S-1 and 4-1. The sites discussed in this EIS include all sites for past, ongoing, and future activities within the state of Nevada that the DOE may use for the completion of its mission. The non-Nevada facilities referred to in this comment have been and will be examined in other DOE National Environmental Policy Act documents. As stated in this EIS under Public Land Order 1662, lands withdrawn for DOE are used by the DoD for their ongoing operations and are not considered in this EIS for any alternative use by the DOE.

Comment Code: Private Citizen 53-167

Location of EIS Revision(s): Chapter 4, Section 4.3

Response: The sentence stating that the Project Shoal Area was returned to the U.S. Bureau of Land management was in error and has been deleted from the text.

Comment Code: Private Citizen 53-168

Location of EIS Revision(s): None required

Response: The title of Figure 4-3 is correct as written. This figure illustrates the lands that are withdrawn for DOE use in connection with the NTS. As stated in the NTS EIS, lands withdrawn under Public Land Order 1662 are used by the DoD for their ongoing operations and are not considered in this EIS for any alternative use by the DOE. With regard to the second part of the comment, the possible development of the Yucca Mountain site as a nuclear waste repository will be examined by the DOE in a separate EIS. The only withdrawal associated with the Yucca Mountain site is for 4,225 acres of public land. The withdrawal is shown in Figure 4-4 of the this EIS.

Comment Code: Private Citizen 53-169

Location of EIS Revision(s): None required.

Response: The intent of Figure 4-3 is to depict lands that were withdrawn for DOE use in connection with the NTS. As stated in the NTS EIS, lands withdrawn under Public Land Order 1662 are used by the DoD for their ongoing operations and are not considered in this EIS for any alternative use by the DOE.

Comment Code: Private Citizen 53-170

Location of EIS Revision(s): None required

Response: The difference between the words "is available" and the commentor's request to change it to "is used for..." has no significance to the analysis of environmental consequences. Replacing the word "dynamic" with "subcritical hydronuclear" would be incorrect. Subcriticals are an element of dynamic experiments. By definition, no self-sustaining nuclear chain reactions will occur with the conduct of subcriticals, as certified by peer-reviewed processes.

Comment Code: Private Citizen 53-171

Location of EIS Revision(s): None required

Response: Subcritical experiments conducted on the surface using hazardous materials would require an extensive containment vessel development effort. In some instances, these experimental setups will not lend themselves to vessel configurations. Furthermore, the subcritical experiments will exercise Test Readiness mandates as delineated by the President.

Comment Code: Private Citizen 53-172

Location of EIS Revision(s): None required

Response: The DOE believes the use of the words "may" and "hazardous materials" are appropriate.

Comment Code: Private Citizen 53-173

Location of EIS Revision(s): None required

Response: Radioactive materials are considered hazardous under the Comprehensive Environmental Response Compensation and Liability Act.

Section 5.1.1.4, "Geology and Soils," states, "Irreversible effects would include the deposition of radiological material within and near the cavity mined in the subsurface." Actual quantities of special nuclear materials used in subcritical tests are classified.

Comment Code: Private Citizen 53-174

Location of EIS Revision(s): None required

Response: The table is broken into two parts because that was the manner in which the original estimates were made and presented. Detailed information of the kind requested by the comment are not needed to perform the analysis of impacts. The estimate presented in the NTS EIS is for the NTS only and does not include any offsite locations. As part of the Environmental Restoration Program, the DOE will be developing detailed computer models of the underground testing areas.

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Comment Code: Private Citizen 53-175

Location of EIS Revision(s): Glossary

Response: The terms listed were considered and many were added to the Glossary of the NTS EIS.

Comment Code: Private Citizen 53-176

Location of EIS Revision(s): None required

Response: The glossary and sidebar text in Chapter 2, Section 2.4.2 explains the reason that some waste must be classified. These reasons are pursuant to a number of legal authorities, executive orders, statutes or regulations too numerous to list, which require the wastes to be in more secure containers and further require it to be disposed of in a more secure area. The radionuclides in classified waste are non-distinguishable from the unclassified waste.

The non-classified information on the classified waste is retained at the Area 5 Radioactive Waste Management site. The classified information is maintained by the DOE/NV Safeguards and Security Division. Efforts are currently underway to declassify this information.

Comment Code: Private Citizen 53-177

Location of EIS Revision(s): Index

Response: The terms listed were considered and many were added to the Index of the NTS EIS.

Comment Code: Private Citizen 53-178

Location of EIS Revision(s): None required

Response: Because of the ongoing introduction of information into the document and the technical limitations of the software, many updates and changes were not reflected in the Index.

Comment Code: Private Citizen 54-1

Location of EIS Revision(s): None required

Response: Support for the closure of the NTS is noted.

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Comment Code: Private Citizen 55-1

Location of EIS Revision(s): None required

Response: The Council on Environmental Quality regulations for implementing the National Environmental Policy Act state that the text of Environmental Impact Statements "for proposals of unusual scope or complexity shall normally be less than 300 pages." However, as the commentor points out, the nature of this EIS is very different from most EISs. The DOE has made every attempt to make the discussion of the alternatives being considered and the potential environmental impacts comprehensive and understandable.

Comment Code: Private Citizen 55-2

Location of EIS Revision(s): None required

Response: The DOE agrees with this comment. The "Summary" has been prepared as a reflection of the organization of the body of the NTS EIS. Information has been condensed and presented so that a reader can capture the major content, and issues of the NTS EIS. The "Summary" for the Final NTS EIS has been prepared in the same fashion.

Comment Code: Private Citizen 55-3

Location of EIS Revision(s): Summary

Response: More detail has been added to the Socioeconomics section of the summary.

Comment Code: Private Citizen 55-4

Location of EIS Revision(s): Summary

Response: More detail has been added to the Socioeconomics section of the summary.

Comment Code: Private Citizen 56-1

Location of EIS Revision(s): None required

Response: The DOE used extensive monitoring data to analyze the impact of the Waste Management Program. The DOE believes the risks are adequately described. Extensive characterization studies, monitoring, and evaluations are contained in the Performance Assessment for Area 5, the Annual Site Environmental Report, and in numerous references cited in those reports. The commentor is referred to these documents for further information.

Comment Code: Private Citizen 56-2

Location of EIS Revision(s): None required

Response: The DOE agrees that the unsaturated zone is important. However, providing details of the vadose zone characterization and analyses performed in support of the Radioactive Waste Management Site Performance Assessments is beyond the level of detail required for the NTS EIS. The commentor is directed to the cited references for extensive details of these characterization studies. The DOE acknowledges that public access to some monitoring reports can be improved.

Experimental monitoring systems in place at the Area 5 Radioactive Waste Management Site have been used to monitor for releases in the vadose zone. Decisions regarding the need for vadose zone and groundwater monitoring systems at the Area 3 Radioactive Waste Management Site are under consideration at this time. DOE has collected characterization data from the vadose zone at both Area 3 and Area 5 waste management sites. There is no indication that contamination from waste disposal activities are migrating to the groundwater. In addition to vadose zone sampling, pilot wells have been installed at the Area 5 Radioactive Waste Management Site. These wells are sampled periodically and there has been no indication of contamination in the groundwater. The closure caps to be used on the waste disposal units at both sites will restrict the amount of moisture that would be available to flow through the waste and into the zone below the disposal units.

The depth to groundwater at the Area 3 Radioactive Waste Management Site is significantly greater than the depth to groundwater at the Area 5 Radioactive Waste Management Site. Determinations on the applicability of Area 5 Radioactive Waste Management Site characterization information to the waste management site in Area 3 will be reviewed and verified by future research on the characterization of the geology at, and under, the Area 3 Radioactive Waste Management Site. Angle boreholes have been drilled under the subsidence craters used for disposal at the Area 3 Radioactive Waste Management Site. The samples from these boreholes provide information on the characteristics of the soil and are analyzed for contaminants. The current analyses indicate that no contamination has been introduced to the vadose zone from disposed waste.

The Area 3 and Area 5 Radioactive Waste Management Sites and the Beatty site are not analogous because of: 1) the thicker vadose zone at the NTS; 2) the absence of liquid waste disposal at the NTS; and 3) the accumulation of precipitation in trenches at Beatty owing to the length of time the pits remained open.

Comment Code: Private Citizen 56-3

Location of EIS Revision(s): None required

Response: The summary discussion on groundwater contamination has been clarified in response to other comments. Nimz and Thompson (1992) report that out of thousands of wells drilled on the test site in support of weapons testing, most of which were in active testing areas, only 5 were found where groundwater transport of radionuclides other than tritium were documented. A further 3 wells could have been expected to be contaminated owing to their proximity to tests, but were not. The discussion of the three wells with tritium contamination has been modified to take into account other reported contamination of the groundwater by tritium.

The findings concerning the transport of radionuclides in groundwater and the conclusion regarding the lack of a groundwater pathway for a surface based disposal site are independent of each other. The statements concerning groundwater transport are for releases directly into the saturated zone that resulted from

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underground nuclear testing. The conclusions regarding the Area 5 site are based upon an extensive characterization of the unsaturated zone under the shallow land burial site. The disposal of radioactive wastes and hazardous wastes is done at sites that are quite small relative to the entire NTS.

Comment Code: Private Citizen 56-4

Location of EIS Revision(s): None required

Response: There was no assumption that the groundwater was static. The statement that is referenced by the commentor was based on extensive field and laboratory experiments conducted by the DOE. These studies indicate that releases via leaching from the melt glass and chimney rubble continue for a given groundwater volume (the cavity volume) until equilibrium is reached. As additional groundwater comes into contact with the soluble radioactive materials, equilibrium will not be reached unless there are enough remaining soluble radionuclides. In either case, once dissolved, the radionuclides are available for migration through groundwater flow.

Comment Code: Private Citizen 56-5

Location of EIS Revision(s): None required

Response: The DOE included the four federal agencies and Nye County as cooperating agencies during the early stages of the development of this EIS in accordance with the Council on Environmental Quality regulations for implementing the National Environmental Policy Act (Title 40 CFR Part 1501.6). These agencies were included because of their jurisdiction and specific expertise with regard to environmental issues which are discussed in the NTS EIS. The DOE sought their cooperation to identify potential impacts to lands owned, administered, or managed by these agencies as a result of implementing the proposed alternatives. The DOE did not want the alternatives evaluated in the NTS EIS to be in conflict with the programs and policies of these agencies.

The U.S. Geological Survey is a source of information, but the agency does not have jurisdiction over the NTS or surrounding property. Although the DOE did not request that the U.S. Geological Survey be a cooperating agency, agency personnel were contacted during the preparation of this EIS and, as the comment states, various U. S. Geological Survey documents were used in developing the environmental baseline and analyzing the potential environmental effects of the proposed alternatives.

Comment Code: Private Citizen 56-6

Location of EIS Revision(s): None required

Response: Extensive characterization studies, monitoring, and evaluations are contained in the Performance Assessment for Area 5 (Shott et al., 1995), the Annual Site Environmental Report, and in numerous references cited in those reports. The commentor is referred to those documents for further information.

The alternative suggested by the commentor was considered, but was eliminated from further consideration because it falls within the range of the four alternatives evaluated in this EIS. The DOE believes that the range of alternatives considered in this EIS bounds the responders suggested alternative.

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Comment Code: Private Citizen 57-1

Location of EIS Revision(s): None required

Response: In the development of the NTS EIS, every effort was made to evaluate a reasonable inventory of activities that might be conducted at the NTS. During this process, there was no indication that a program with the name "FALCON" was something that should be included. As with all programs proposed for the NTS, appropriate National Environmental Policy Act reviews would take place prior to any activity.

Comment Code: Private Citizen 58-1

Location of EIS Revision(s): None required

Response: The 1977 EIS (ERDA, 1977) is the most recent EIS which describes the activities and programs conducted at the Nevada Test Site. To that extent, it does contain information and impact analyses which are valuable for inclusion in this EIS. However, the environmental information and data presented in this EIS updates previous information and describes impacts for the future activities being considered. Based on the new information and analyses, DOE does not believe that undue reliance has been placed on the 1977 EIS.

Comment Code: Private Citizen 58-2

Location of EIS Revision(s): None required

Response: The Final NTS EIS identifies Alternative 3, plus the public education activities of Alternative 4, as the Preferred Alternative.

Comment Code: Private Citizen 58-3

Location of EIS Revision(s): None required

Response: The DOE recognizes the potential difficulties in achieving the goals proposed in Volume 2. Potential conflicts between the goals and mission requirements will be identified and proposed resolutions evaluated during the National Environmental Policy Act review process. At that time, interested parties will be able to comment on the conflicts and proposed resolutions.

Comment Code: Private Citizen 58-4

Location of EIS Revision(s): None required

Response: The commentor has pointed out the difficulty of making decisions when information is lacking. The Council on Environmental Quality has recognized this in its regulations, and has provided guidance for agencies in preparing National Environmental Policy Act documents. It is important not to foreclose options when data are not available. In these cases the NTS EIS has provided bounding analyses; that is, they have used very conservative assumptions to ensure that any adverse impacts that were measured, when more data are available, would not be likely to be more severe than the estimated impacts with limited data. When more

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data are available for a specific project, additional National Environmental Policy Act analysis would be tiered from this EIS.

Comment Code: Private Citizen 58-5

Location of EIS Revision(s): None required

Response: The commentor's general statement applies specifically to the section entitled "Unavoidable Adverse Impacts" in the Summary. Unavoidable adverse impacts are defined as substantial adverse changes to the existing environmental conditions that cannot be fully mitigated. Examples of unavoidable adverse impacts are water withdrawals and air quality degradation. This section has been clarified in the Final NTS EIS.

Comment Code: Private Citizen 58-6

Location of EIS Revision(s): None required

Response: The Solar Enterprise Zone Concept was established to create a sustaining solar manufacturing infrastructure through construction of a utility-scale solar-generating facility in southern Nevada. Although the words; Solar Enterprise Zone, do not appear in the Notice of Intent, the operation is mentioned. In the Background section of the Notice of Intent, one of the primary responsibilities of the NTS is to:

"Demonstrate the capability to provide alternative energy sources to meet power needs for the Southwestern United States. This would include research activities in solar and other alternative energy source technologies."

Solar energy research is considered a continuing operation at the NTS. The current activity, as described in Appendix A, Section A.4.1.1, is the preparation of plans for an initial 100 megawatt solar generator program. Under Alternative 3, new initiatives would be pursued, including production and research facilities.

The DOE is acting in close coordination with the Corporation for Solar Technology and Renewable Resources to develop mission principles of the Solar Enterprise Zone. The Corporation for Solar Technology and Renewable Resources is currently engaged in selecting one or more of the prospective locations (two on-site, and three off-site) for the construction of a large-capacity solar power project. Upon selection, appropriate additional National Environmental Policy Act reviews will be conducted.

Comment Code: Private Citizen 58-7

Location of EIS Revision(s): None required

Response: There continues to be an extensive radiation monitoring network both on and off the Nevada Test Site. Changes have been made in the network, and it is correct that some stations have been relocated and others closed. The remaining network has been designed to provide the continuity of historic data mentioned by the commentor as well as to continue to provide the best information for use in defining the status of the environment for discussion in the *Annual Site Environmental Report*. The Yucca Mountain Stations have been included in the consideration of the monitoring network design.

Comment Code: Private Citizen 58-8

Location of EIS Revision(s): None required

Response: The source of contamination for Areas 11 and 13 was from the safety shots described in Section 4.1.4.3, Volume 1, Chapter 4. The safety shot information is contained as the second item in Table 4-1, Volume 1, Chapter 4; therefore, the contamination in Areas 11 and 13 is included in Table 4-1.

Comment Code: Private Citizen 58-9

Location of EIS Revision(s): None required

Response: The presentation of this well data is lengthy and is not needed for the analysis contained in the NTS EIS. The Long Term Hydrologic Monitoring Program monitors 36 wells on the NTS, and another 23 wells off of the facility. The results of this monitoring are presented each year in the NTS Annual Site Environmental Report.

Comment Code: Private Citizen 58-10

Location of EIS Revision(s): None required

Response: The DOE is committed to the goal of remediating contaminated sites to ensure that risk to the environment and to human health and safety are either eliminated or reduced to protective levels. A description of Environmental Restoration Program activities can be found in Appendix A, Section A.3, Nevada Environmental Restoration Program. An ongoing assessment to identify and remediate contamination will continue in pursuit of these goals. Protective levels are determined through site conditions, risk assessments, and consultation with federal and state regulatory authorities.

Specific investigations and risk assessments are being conducted for each corrective action unit (grouping of environmental restoration sites). These investigations and assessments will determine the levels and extent of contamination, ascertain the potential human health or environmental exposure to the contamination, and compare the exposure to established standards for protection of human health and the environment.

Surveys conducted to date by the Environmental Restoration Project as part of the Decontamination and Decommissioning Subproject indicate that many NTS facilities have limited areas of radioactive contamination and little or no hazardous constituent contamination. Much of the contamination within the facilities could feasibly and economically be removed to levels acceptable for public use. Studies conducted by the Environmental Restoration Project indicate that most of the radioactive contamination, such as plutonium contamination, from historic testing is mostly confined to the upper 5 centimeters (cm) (2 inches [in.]) of soil. Conventional soil removal equipment, such as bulldozers and excavators, can successfully remove the contaminated soil, thereby cleaning the site to acceptable levels for other uses, such as construction of industrial facilities. The intent of the Environmental Restoration Program is to allow immediate use of lands and facilities based on acceptable risk levels. Field activities are being conducted as a result of the Environmental Restoration Program's mission to determine existing levels of contamination and cost-effective methods of decontamination or clean-up to restore buildings and lands to useable condition.

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Comment Code: Private Citizen 58-11

Location of EIS Revision(s): None required

Response: The Solar Enterprise Zone concept analyzed in this EIS includes development of solar energy facilities at both the NTS and other alternative sites. Alternative Solar Enterprise Zone sites may be used in conjunction with the NTS to minimize infrastructure improvements required and to improve access to power markets (Appendix A, Section A.4.3.1) The Eldorado Valley, the Dry Lake Valley, and the Coyote Spring Valley sites were identified as potentially feasible sites for such facilities by the Corporation for Solar Technology and Renewable Resources, the entity that would actually develop a solar energy facility, and thus evaluation of the impacts of development of these sites is required as part of the DOE's National Environmental Policy Act process.

Comment Code: Private Citizen 58-12

Location of EIS Revision(s): None required

Response: The DOE does not agree that there is a discrepancy between the two sections. As stated in the NTS EIS, the DOE will continue to evaluate potential off-site impacts, and is developing a regional groundwater flow model to serve as a tool for impact evaluation. Preliminary models of the impacts of water development for Alternative 3 have indicated that the area of influence of a well field for the proposed Solar Enterprise Zone will not extend beyond the boundaries of the NTS.

Comment Code: Private Citizen 58-13

Location of EIS Revision(s): Chapter 5, Section 5.3.1.6

Response: Rare and vulnerable plants and animals are those listed by the U. S. Fish and Wildlife Service as threatened, endangered, or candidates. The text has been changed to make this clear. As required by the Endangered Species Act, the DOE/NV would consult with the Fish and Wildlife Service to evaluate the effect of the Alternative Energy Project, if any, on these species. The only such species expected to be impacted is the desert tortoise.

Comment Code: Private Citizen 58-14

Location of EIS Revision(s): Chapter 5, Section 5.3.1.5.2

Response: The DOE agrees and the text has been corrected to reflect this commentor's observation.

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Comment Code: Private Citizen 58-15

Location of EIS Revision(s): Chapter 5, Section 5.3.1.5.2

Response: The DOE agrees that a discussion of groundwater mining is appropriate. The following text has been added to the discussion:

There may not be a one-to-one correspondence between the quantity of water withdrawn in excess of the perennial yield, and the reduction in underflow to downgradient basins. The results of preliminary modeling of the groundwater withdrawals indicates that the groundwater level impacts will be localized within the vicinity of the well, and most impacts will be upgradient. It is likely that some groundwater will be removed from storage, a process referred to as groundwater mining, and there will be a corresponding decrease in the impact on downgradient discharge rates. The results presented herein are preliminary, and are adequate for the purposes of this EIS. More detailed evaluations will be performed as more detailed information on water use by the facility become available, and will be presented in lower-tiered National Environmental Policy Act documents prior to the development of the water.

Comment Code: Private Citizen 59-1

Location of EIS Revision(s): None required

Response: The DOE believes it is important for American Indian groups to participate in the preparation of the NTS EIS. On March 17-19, 1995, representatives of the CGTO met with the DOE/NV personnel. The CGTO represents 19 Indian Tribes and official Indian groups that have traditional cultural and historic ties to the NTS region. It consists of individuals selected by the various Tribal governments and official Indian groups to represent the tribes and report back to the tribal governments and groups on issues affecting Indian people. The DOE/NV accepted the CGTO recommendation to appoint two representatives from the Western Shoshone, Owens Valley Paiute, and Southern Paiute to write the American Indian perspective on the alternatives contained in the NTS EIS. The sections prepared by this group appear in italics, where appropriate, in this EIS and also appear in Appendix G. Chapter 8. Appendix G contains details of the coordination effort between the DOE/NV and the CGTO.

Consultation with the CGTO and their participation in the preparation of the NTS EIS satisfied National Environmental Policy Act requirements as well as Executive and DOE Order requirements regarding American Indian Tribal Government Policy.

Comment Code: Private Citizen 59-2

Location of EIS Revision(s): None required

Response: Consultation with appropriate American Indian groups was undertaken by the DOE for this program in compliance with the National Environmental Policy Act, American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, and the National Historic Preservation Act. Consultation with representatives of the CGTO was initiated by the DOE for this program in March 1995. As indicated in the revised Appendix G, "American Indian Assessments, A Native American Resource Document," consultation with the CGTO has been, and is, continuing. Numerous project-specific consultations have occurred, including inventory and evaluation of American Indian cultural resources and

compliance with the American Indian Religious Freedom Act, and the Native American Graves Protection and Repatriation Act (Appendix G, "Executive Summary"). Ongoing consultation has resulted in the establishment of mutual cooperation and working relationships between American Indian groups and the DOE.

Comment Code: Private Citizen 59-3

Location of EIS Revision(s): None required

Response: The DOE agrees and has begun a comprehensive study of the potential social and cultural effects of the transportation of low-level and mixed waste on affected American Indian tribes. The DOE is also committed to having full government-to-government consultation on transportation issues with affected American Indian tribes.

Comment Code: Private Citizen 59-4

Location of EIS Revision(s): Appendix I, Attachment F

Response: The location of the Moapa Paiute Indian Reservation has been added to Figures F-2 and F-4 in Attachment F.

Comment Code: Private Citizen 59-5

Location of EIS Revision(s): None required

Response: Executive Policy Memorandum: Government-to-Government Relations with Native American Tribal Governments is cited in Section 1.1 of the NTS EIS.

Comment Code: Private Citizen 59-6

Location of EIS Revision(s): None required

Response: DOE Order 1230.2 regarding American Indian Tribal Government Policy is cited in the Executive Summary of Appendix G of the NTS EIS.

Comment Code: Private Citizen 59-7

Location of EIS Revision(s): None required

Response: See response to Comment Code Private Citizen 59-3.

Comment Code: Private Citizen 59-8

Location of EIS Revision(s): None required

Response: The Las Vegas Indian Center is a Pan-tribal organization and does represent American Indians with traditional lands located elsewhere. However, these groups represented by the Las Vegas Indian Center have established historical ties to the area. The historical basis for these ties has been previously discussed in "American Indians and Nuclear Waste Storage: The Debate at Yucca Mountain, Nevada" by Richard Stoffle and J.M. Evans (specifically Pages 253-255), published in *Native Americans and Public Policy*, 1992 (Stoffle and Evans, 1992).

Original discussions for the Final NTS EIS have been provided by the American Indian Writers Subgroup on social and economic issues (incorporated into the Socioeconomic sections), possible health effects (incorporated into the Occupational and Public and Safety/Radiation sections), and environmental justice (incorporated into the Environmental Justice sections). The affected environments and environmental consequences for these sections are also presented in the revised Appendix G, "American Indian Assessments, A Native American Resource Document."

Appendix G represents the collective opinions of the CGTO as prepared by the selected representatives comprising the American Indian Writers Subgroup. The CGTO consists of seven separate tribes of the Southern Paiutes, four tribes of the Western Shoshones, five tribes of the Owens Valley Paiutes and Shoshones, and three other official Indian Organizations (Appendix G, "Executive Summary"). In March 1995, a CGTO recommendation to create the American Indian Writers Subgroup was made and implemented. The American Indian Writers Subgroup is basically comprised of two representatives each from the Southern Paiutes, the Western Shoshones, the Owens Valley Paiutes and Shoshones, and a coordinator (Appendix G, "Executive Summary"). Each phase of the consultation process from the initial meetings to the formation of the American Indian Writers Subgroup to the review of all prepared text has received the full approval of the CGTO. The Tribal Governments have been fully apprised of each step

As a result of a previous comment received by the CGTO, the language in the American Indian EIS sections prepared by the American Indian Writers Subgroup was reviewed by the CGTO. The CGTO recommended minor corrections, but have retained the original voice. EIS sections prepared by the American Indian Writers Subgroup have received only minor formatting and terminology editing during DOE production.

Public Hearing Transcript

Comment Code: Public Hearing Transcript 1-1

Location of EIS Revision(s): None required

Response: The NTS EIS shows that potential impacts from waste shipments would be small under any of the alternatives evaluated. The DOE recognizes that transportation risks are not the only concern in the transportation of waste to the NTS. Consequently, the DOE will continue to interact with the stakeholders to ensure that local concerns are brought to the attention of carriers selecting routes and continue to conduct all operations, including shipping, in a safe manner. The impacts of proposed waste shipments to the NTS are discussed in the Sections 5.1.1.2, 5.2.1.2, 5.3.1.2, and 5.4.1.2 of Volume 1, Chapter 5 and Volume 1, Appendix I, Transportation Study. Also see Section 1.6 of Volume 3.

Comment Code: Public Hearing Transcript 1-2

Location of EIS Revision(s): Volume 1, Chapter 6

Response: Volume 1, Chapter 6 has been rewritten to evaluate the impacts of a *Resource Management Plan* and economic and demographic projections as the source of non-NTS information. In addition, Section 6.4.2 addresses cumulative transportation impacts. In particular, all NTS-related shipments under the expanded use would be expected to contribute 0.002 percent of the total vehicular incidents to the nation's highways. Not all of these shipments would use Interstate 15 or other routes of concern of the commentor.

Comment Code: Public Hearing Transcript 1-3

Location of EIS Revision(s): None required

Response: The DOE recognizes that the transportation of radioactive materials and related issues are of significant concern to the general public and other interested parties. For additional discussion and information on transportation and related issues, please refer to the response to Comment Code Public Hearing Transcript 1-1 and Section 1.6 of Volume 3.

Comment Code: Public Hearing Transcript 1-4

Location of EIS Revision(s): None required

Response: The comment favoring a combination of Alternatives 3 and 4 has been noted.

Comment Code: Public Hearing Transcript 1-5

Location of EIS Revision(s): None required

Response: The vast majority of the low-level and mixed wastes described in the NTS EIS comes from the decontamination and decommissioning of DOE plants and facilities, remediation of contaminated sites, and disposal of residual waste from past activities both on the NTS and at other DOE and DoD sites across the United States. The waste problems that exist across the DOE Complex at this time are the result of historical activities and practices that are no longer employed. DOE sites now have very stringent waste management controls in effect through the implementation of waste minimization and pollution prevention programs. Cleanup and remediation efforts are under way at nearly every DOE site that has radioactive and/or mixed-waste contamination areas.

Comment Code: Public Hearing Transcript 1-6

Location of EIS Revision(s): None required

Response: Under scenarios other than a total shutdown of activities at the NTS, some low-level, mixed, and hazardous wastes are likely to be generated and would require management. The DOE has an active waste-minimization and management program focused on controlling the amount of waste generated; treating and disposing of wastes in a manner that minimizes impacts to the environment; and protecting the health and safety of the public and the on-site workforce.

Comment Code: Public Hearing Transcript 1-7

Location of EIS Revision(s): None required

Response: The vast majority of the low-level and mixed wastes covered in the NTS EIS comes from the decontamination and decommissioning of DOE plants and facilities, remediation of contaminated sites, and disposal of residual waste from past activities both on the NTS and at other DOE and Defense sites across the United States. Very little (less than 5 percent) of this waste comes from new activities and projects. The list of some of the sites that contributed to the volume of low-level waste considered in the NTS EIS is located in Volume 1, Section 4.1.2.3.

Comment Code: Public Hearing Transcript 1-8

Location of EIS Revision(s): None required

Response: Many of the activities that make up the options under Alternatives 1, 3, and 4 have the potential to result in adverse impacts of various magnitudes on geology and soil. The DOE shares the concern about environmental degradation of geology and soils. The DOE has programs in place that are intended to cleanup existing contamination while assuring the continued safety of the environment. These are discussed in Volume 1, Chapters 3 and 4 of the NTS EIS. It is not possible to eliminate every threat to the geology and soils when conducting any substantial activity on the land surface or within the subsurface.

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Comment Code: Public Hearing Transcript 1-9

Location of EIS Revision(s): None required

Response: The *Resource Management Plan* being developed for the NTS emphasizes and supports ecosystem management and conservation of biodiversity. Goals for the management of those resources are being developed with help from the public and reflect the DOE's commitment for managing and conserving resources. These goals will be used as standards against which the DOE will judge the impact of its actions. This philosophy is reflected in Volume 2.

Comment Code: Public Hearing Transcript 1-10

Location of EIS Revision(s): None required

Response: The Solar Enterprise Zone, as a concept to create a sustaining solar manufacturing infrastructure through construction of utility-scale, solar-generating facilities, is described in Appendix A, Section A.4.1.1. More specific information on the current status of programs under review by the Solar Enterprise Task Force can be found in Appendix A, Section A.4.3.1, "Alternative Energy." Sections 4.5, 4.6, and 4.7 of Volume 1 of the NTS EIS discuss the environment at sites currently under consideration for the location of solar-generating facilities. Volume 1, Sections 5.3.5, 5.3.6, and 5.3.7 of the NTS EIS discuss the potential environmental impacts of solar technology development at these sites.

Comment Code: Public Hearing Transcript 1-11

Location of EIS Revision(s): None required

Response: The comment raises concerns about potential disposal of wastes at Yucca Mountain. Possible environmental impacts from the construction, operation, and eventual closure of a potential repository for spent nuclear fuel and high-level radioactive waste at Yucca Mountain, including potential cumulative impacts, will be addressed in a separate, ongoing EIS. Refer to Volume 1, Section 3.2.6.1 and Volume 3, Section 1.1 for a discussion of the relationship between Yucca Mountain and the NTS.

Comment Code: Public Hearing Transcript 1-12

Location of EIS Revision(s): None required

Response: The NTS EIS includes consideration of transportation of low-level radioactive waste. Spent nuclear fuel and high-level radioactive waste transportation will be addressed in a separate, ongoing EIS for a potential repository at Yucca Mountain, and will include an analysis of different types of shipping casks, including the sealed cask mentioned in your comment that may be used for spent nuclear fuel and high-level radioactive waste. See Section 1.1 of Volume 3 for more information.

Comment Code: Public Hearing Transcript 1-13

Location of EIS Revision(s): None required

Response: The DOE is concerned about the health of both the public and the environment. The principal focus of analyses contained in the NTS EIS sections on Occupational and Public Health and Safety is directed toward assessment of impacts to the human population, both workers at the NTS and the general population offsite. These analyses have shown that the principal health risks to workers at the NTS are occupational injuries and fatalities that are similar to risks to workers employed in other "safe" industries. For the general off-site population, impacts were estimated to be less than one additional fatal cancer in the surrounding population over that which would occur without the presence of these NTS activities.

Comment Code: Public Hearing Transcript 1-14

Location of EIS Revision(s): None required

Response: The Radiation Exposure Compensation Act of 1990, as amended (refer to Volume 1, Chapter 3), states that members of the public who reside within the geographic boundaries and time period therein defined may be eligible for monetary benefits as compensation for illness or damage related to specific diseases and death. However, none of the alternatives considered in this EIS involve the resumption of atmospheric weapons testing. For more information regarding claims for past damages resulting from atmospheric testing, please see Volume 1, Section 3.2.6.3.

Comment Code: Public Hearing Transcript 1-15

Location of EIS Revision(s): None required

Response: The commentor's opposition to nuclear testing and support of closure of the NTS is noted.

Comment Code: Public Hearing Transcript 1-16

Location of EIS Revision(s): Chapter 4, Section 4.1.12, Appendix G

Response: The loss of, or reduced access to specific American Indian resources, such as burial grounds, has been indirectly discussed in the American Indian sections under "Cultural Resources." The American Indian Writers Subgroup has prepared additional sections concerning issues of Environmental Justice (Section 4.1.12). Impacts to these American Indian concerns were also provided by the American Indian Writers Subgroup and are incorporated into this EIS under each alternative. The effect this loss or lack of access creates has been identified in these sections.

Comment Code: Public Hearing Transcript 1-17

Location of EIS Revision(s): None required

Response: The waste intended for burial at the NTS, whether it comes from onsite or offsite, must meet very specific DOE/NV waste-acceptance criteria prior to disposal at the NTS. In addition to the waste-acceptance criteria, operational actions are taken to contain any contamination, including gases, that could escape from waste-disposal packages. Waste that is expected to generate gases after disposal, is placed in landfill cells that are constructed and designed to contain and limit the amount of gas that escapes and, subsequently, could come in contact with people. These actions are taken to provide the safest practical working environment for NTS waste-disposal workers, and to ensure that there is no release of radioactivity or contaminants from the NTS.

Comment Code: Public Hearing Transcript 1-18

Location of EIS Revision(s): None required

Response: The comment relative to returning the NTS to the public is noted. As a point of clarification, it must be recognized that the DOE cannot relinquish withdrawn lands directly to the public, states, or other entities for their use. The land is withdrawn from public use under the provisions of the Federal Land Management and Policy Act. Upon expiration of the withdrawal the DOE may reapply for a continuation or extension of the withdrawal or return the land to the Department of the Interior.

Comment Code: Public Hearing Transcript 1-19

Location of EIS Revision(s): None required

Response: The comment has been noted.

Comment Code: Public Hearing Transcript 1-20

Location of EIS Revision(s): None required

Response: The impacts of proposed waste shipments to the NTS are discussed in Volume 1, Section 5.1.1.2, 5.2.1.2, 5.3.1.2, 5.4.1.2 and Appendix I. The transport routes evaluated in the transportation study are limited to existing highways. If the proposed Interstate 66 were constructed, waste shipments could be rerouted around St. George, Utah, as the commentor proposes. However, even if the proposed Interstate 66 is not constructed, the NTS EIS shows that potential impacts from waste shipments would be small under any of the alternatives evaluated. The DOE recognizes that transportation risks are not the only concern in the transportation of waste to the NTS. Consequently, the DOE will continue to interact with the stakeholders to ensure that local concerns are brought to the attention of carriers selecting routes and will continue to conduct all operations, including shipping, in a safe manner.

Comment Code: Public Hearing Transcript 1-21

Location of EIS Revision(s): None required

Response: Among other issues, the commentor raises concerns about potential transportation of nuclear wastes to a repository at Yucca Mountain. Possible environmental impacts from the construction, operation, and eventual closure of a repository for spent nuclear fuel and high level radioactive waste at Yucca Mountain, including transportation and discussions of potential routing for these waste shipments will be addressed in a separate ongoing EIS. Please refer to Section 1.1 and 1.6 of Volume 3.

Comment Code: Public Hearing Transcript 1-22

Location of EIS Revision(s): None required

Response: Public comments received during the scoping process recommended both cleaning up the site, followed by closure, and simply closing and securing the site without further action. The alternatives selected for evaluation in this EIS include cleaning up and not cleaning up the site and closure, continued operations at the current or expanded level, and alternative uses. This range of alternatives is considered to include all reasonably foreseeable actions, including cleaning up the site followed by closure.

Comment Code: Public Hearing Transcript 1-23

Location of EIS Revision(s): None required

Response: Your comment is noted. The Human Health Risk Assessment, Appendix H, identifies risk associated with ongoing and future activities at the NTS including the risk from underground testing.

Comment Code: Public Hearing Transcript 1-24

Location of EIS Revision(s): None required

Response: The DOE believes it is important for American Indian groups to participate in the preparation of this EIS. Consultation with the Consolidated Group of Tribes and Organizations was initiated for this project in 1995 and is an ongoing process. Consideration of American Indian resources and general concerns has been a part of the DOE planning process since 1985.

Although in many instances viewpoints of the American Indians differ widely from the DOE's, ongoing consultation serves to provide a better understanding of American Indian issues. It may be unlikely that all areas of concern will be resolved in the future; however, through ongoing consultation, the DOE continues to work toward acceptable compromises and solutions to American Indian concerns.

Comment Code: Public Hearing Transcript 1-25

Location of EIS Revision(s): None required

Response: The comment has been noted.

Comment Code: Public Hearing Transcript 1-26

Location of EIS Revision(s): None required

Response: A primary objective of the DOE's ongoing Environmental Restoration Program at the NTS is to identify, characterize, and remediate contaminated sites in accordance with the requirements of the responsible regulatory agencies. It should be noted, however, that the DOE cannot relinquish withdrawn lands directly to the public, states, or other entities for their use. The land is withdrawn from public use under the provisions of the Federal Land Management and Policy Act. Upon expiration of the withdrawal, the DOE may reapply for a continuation or extension of the withdrawal or return the land to the Department of the Interior.

Comment Code: Public Hearing Transcript 1-27

Location of EIS Revision(s): None required

Response: The continued use of the NTS to support the DOE Waste Management Program efforts at current levels and under expanded use are options evaluated in this EIS. The potential impacts of using the NTS as an interim or long-term storage location for nuclear weapons and components is evaluated under Alternative 3. Each of these options has been evaluated considering the existing environment, potential impacts, and the characteristics and attributes of the NTS as a suitable storage location. Refer to Section 1.1 of Volume 3 for a discussion of the relationship between Yucca Mountain and the NTS.

Comment Code: Public Hearing Transcript 1-28

Location of EIS Revision(s): None required

Response: The commentor's objection to the transport of low-level waste on highways, and the disposal of this waste at the NTS, has been noted.

Comment Code: Public Hearing Transcript 1-29

Location of EIS Revision(s): None required

Response: The comment in opposition to the continued operation of waste-management units at the NTS is noted. The closure of all waste-management units at the NTS, as well as the continued use of the NTS to support DOE Waste Management Program efforts at current levels and under expanded use, are options evaluated under the range of alternatives addressed in this EIS.

Comment Code: Public Hearing Transcript 2-1

Location of EIS Revision(s): None required

Response: The comments concerning the location of the NTS in Nye County and that some waste shipments would be routed through Pahrump under the various alternatives have been noted.

Comment Code: Public Hearing Transcript 2-2

Location of EIS Revision(s): None required

Response: The DOE agrees with the commentor that groundwater monitoring is critical. Toward that end, the DOE has begun an extensive program to characterize the groundwater under the NTS. This program will provide additional locations for monitoring as part of the program detailed in Volume 1, Section 4.1.5.2 of the NTS EIS.

Comment Code: Public Hearing Transcript 2-3

Location of EIS Revision(s): None required

Response: The NTS is one of four potential sites being considered for development of renewable solar energy resources. The selection of the site or sites for development of the Solar Enterprise Zone facility will be principally based on factors related to the engineering feasibility (e.g., required infrastructure improvements and proximity to the power grid) and potential environmental impacts at the sites being considered, not the potential employment benefits which might result. The DOE does not set or direct the hiring practices of its contractors; however, the DOE will continue to encourage its contractors to notify appropriate Nye County agencies of available positions to maximize the opportunity for Nye County residents to be hired to fill positions on DOE projects at the NTS.

Comment Code: Public Hearing Transcript 2-4

Location of EIS Revision(s): None required

Response: The NTS, Eldorado Valley, Dry Lake Valley, and Coyote Spring Valley have been identified as potential sites where the Solar Enterprise Zone could deploy its generating facilities. These sites were included in the NTS EIS because the National Environmental Policy Act requires the analysis of all reasonable alternatives. The DOE acknowledges comments regarding increased employment due to nondefense research and development and has analyzed its potential positive and negative effects on the communities which may be implicated.

Comment Code: Public Hearing Transcript 2-5

Location of EIS Revision(s): None required

Response: The comments regarding the creation of jobs for Nye County have been noted.

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Comment Code: Public Hearing Transcript 2-6

Location of EIS Revision(s): None required

Response: The NTS EIS discusses possible activities for nondefense research and development, including the development of solar power at the Solar Enterprise Zone. The DOE actively supports alternative energy programs, such as solar energy research, as part of its ongoing mission. The DOE/NV agrees that southern Nevada is an ideal place for the development of alternative energy resources and intends to promote the NTS for this project.

Comment Code: Public Hearing Transcript 2-7

Location of EIS Revision(s): None required

Response: Direct-funded environmental safety and health training will continue to be made available to state regulators, educators, the public, and agencies (law enforcement, fire fighters, and emergency medical personnel) within the state of Nevada. Also see Section 1.6 of Volume 3.

Comment Code: Public Hearing Transcript 2-8

Location of EIS Revision(s): None required

Response: The comment is noted with respect to the transportation of hazardous materials on the roadways, especially in rural towns and communities. Please refer to Section 1.6 of Volume 3.

Comment Code: Public Hearing Transcript 2-9

Location of EIS Revision(s): None required

Response: The routes identified in the NTS EIS may not be the actual routes that would be used in the future. Although in-Nevada route, NV-6, ranks high in comparison to other in-Nevada routes, the transportation analysis documented in Appendix I shows that the transportation risks associated with all routes are small. Further, the NTS EIS evaluates NV-6 and the routes that utilize Highway 160 as alternate routes, not primary routes.

The DOE recognizes that transportation risks are not the only concern in the transportation of waste to the NTS. Consequently, the DOE will continue to interact with the stakeholders to ensure that local concerns are brought to the attention of carriers selecting routes, and continue to conduct all operations, including shipping, in a safe manner.

Comment Code: Public Hearing Transcript 2-10

Location of EIS Revision(s): None required

Response: The NTS currently has a transuranic waste storage pad with over 1,500 55-gallon drums of mixed transuranic waste. Under Alternative 3 of the NTS EIS, transuranic waste would be received for certification purposes prior to shipment to an off-site disposal location. The Draft Waste Management Programmatic EIS identifies the NTS as a treatment and storage site under the No Action and Decentralized alternatives (DOE, 1995c). These alternatives include the treatment of transuranic waste at 11 and 16 sites, respectively.

At this time, the only planned increase of transuranic waste at the Area 5 Radioactive Waste Management Site is 0.02 cubic meters (m³) (0.03 cubic yards [yd³]), anticipated to be shipped to the NTS for storage from Energy Technology Engineering Center, Canoga Park, California. Additional transuranic waste that would be stored at the NTS under Alternative 3 of the NTS EIS has not been estimated, pending future programmatic decisions. There may be additional National Environmental Policy Act documents prepared for actions concerning the shipment of transuranic waste to the NTS for certification purposes. Under Alternatives 1 and 4, the volume of transuranic waste would decrease as waste is certified and sent off site.

Comment Code: Public Hearing Transcript 2-11

Location of EIS Revision(s): None required

Response: Refer to Comment Code Public Hearing Transcript 1-11 and Section 1.6 of Volume 3 for a discussion of the relationship between Yucca Mountain and the NTS.

Comment Code: Public Hearing Transcript 2-12

Location of EIS Revision(s): None required

Response: The commentor is concerned that there are no viable plans for railroads coming to the test site. The transportation of radioactive waste by rail is not evaluated as an option in any of the alternatives in this EIS because there are no rail spurs that currently provide service to the NTS. However, Volume 1, Appendix I, Attachment F of the NTS EIS provides a summary of considerations related to rail spur development, use of truck/rail intermodal systems, and comparisons to the continued use of truck transportation systems. This section of the NTS EIS is intended to support a dialogue with Nevada stakeholders on alternative radioactive material transportation opportunities that could benefit both the community and the federal government.

The DOE will evaluate the possible environmental impacts from the construction, operation, and eventual closure of a potential repository for spent nuclear fuel and high-level radioactive waste at Yucca Mountain, Nevada, including transportation and discussion of potential routing for these waste shipments, in a separate, ongoing EIS. Refer to Volume 1, Section 3.2.6.1 and Volume 3, Section 1.1 for a discussion of the relationship between Yucca Mountain and the NTS.

Comment Code: Public Hearing Transcript 2-13

Location of EIS Revision(s): None required

Response: Pahrump is the largest and most rapidly growing community in Nye County. It is discussed in Volume 1, Section 4.1.3 with respect to population, housing stock, housing demand, vacancy rate, public finance, and public services.

Comment Code: Public Hearing Transcript 2-14

Location of EIS Revision(s): Volume 1, Appendix H

Response: Your comment has been noted. See Section 1.2 of Volume 3. In addition, Appendix H, Human Health Impacts has been extensively revised as a result of detailed comments received on human health and risk issues.

Comment Code: Public Hearing Transcript 2-15

Location of EIS Revision(s): None required

Response: Based on recent reports, it has been concluded that the plutonium and uranium in the tank waste at Hanford could not go critical. The tanks and the waste at Hanford remain one of DOE's high priorities for remediation and cleanup, however.

Comment Code: Public Hearing Transcript 2-16

Location of EIS Revision(s): None required

Response: No environmental damage is expected as a result of incident-free transport of any radioactively contaminated material/waste. Not every accident would result in a release, in addition, releases would be limited by the form of the material (solid) and only a small fraction of the amount released would be transported (by air, soil, or water); therefore, the area affected would be limited. The expected number of latent cancer fatalities in the maximally exposed population due to accidental releases under Alternative 3 is 0.00041 in 10 years. To put this risk in perspective, consider that the annual cancer death rate from all causes in Nevada is around 2,500.

Comment Code: Public Hearing Transcript 2-17

Location of EIS Revision(s): None required

Response: There have been a number of studies of the colloidal transport of radionuclides from underground nuclear testing in groundwater at the NTS. Related studies on similar radionuclides and rocks have been performed for the Yucca Mountain Geologic Repository Project, and the DOE's Office of Subsurface Science has conducted studies on other rock types found on the NTS. Migration of tritium in groundwater at the NTS has been found to be more significant than transport of other radionuclides as colloids. Therefore, present

studies focus on transport rates of radionuclides as a result of all mechanisms, not solely colloidal transport. It is also important to distinguish between groundwater flow and the much more rapid flow of water in streams on the earth's surface. Groundwater is subject to distinctly different chemical and physical processes than those applicable to surface waters.

Comment Code: Public Hearing Transcript 2-18

Location of EIS Revision(s): None required

Response: Monitoring of the vadose zone occurs at both of the NTS disposal sites and will continue for some time. There is no contamination detected from either disposal site on the NTS that is migrating toward the groundwater. The DOE/NV employs a stringent waste-acceptance criteria that requires generators to prepare their waste so that it is in an acceptable form prior to disposal. Extraction of radioactive nuclides from waste material is very rarely done due to the extremely low level of radioactivity and the prohibitive cost of purifying waste material to product-quality levels. Transformation of radioactive nuclides through the use of reactions or any other method to something benign is not technologically and cost feasible at this time. The DOE is continually looking for implementable opportunities in waste minimization and pollution prevention.

Comment Code: Public Hearing Transcript 2-19

Location of EIS Revision(s): None required

Response: The comment is noted. The NTS waste disposal sites do not accept waste that requires deactivation.

Comment Code: Public Hearing Transcript 2-20

Location of EIS Location(s): None required

Response: The radiological risks associated with transportation of low-level waste nationally are very low; less than one expected latent cancer fatality (0.075) and less than one radiation-induced detriment (0.035) in 10 years under Alternative 3, as compared to the average annual cancer death rate in Nevada of approximately 2500. Risks are even lower under Alternative 1.

Comment Code: Public Hearing Transcript 2-21

Location of EIS Revision(s): None required

Response: Among other issues, your comment raises concerns about potential disposal of wastes at Yucca Mountain, which is not within the scope of the NTS EIS. Possible environmental impacts from the construction, operation, and eventual closure of a potential repository for spent nuclear fuel and high-level radioactive waste at Yucca Mountain, including potential cumulative impacts, will be addressed in a separate, ongoing EIS. Refer to Volume 1, Section, 3.2.6.1 and Volume 3, Section 1.1 for further explanation on why Yucca Mountain is outside the scope of the NTS EIS.

Comment Code: Public Hearing Transcript 2-22

Location of EIS Revision(s): None required

Response: The comment raises concerns about potential disposal of wastes at Yucca Mountain. Possible environmental impacts from the construction, operation, and eventual closure of a potential repository for spent nuclear fuel and high-level radioactive waste at Yucca Mountain, including potential cumulative impacts, will be addressed in a separate, ongoing EIS. Refer to Volume 1, Section 3.2.6.1 and Volume 3, Section 1.1 for a discussion of the relationship between Yucca Mountain and the NTS. Information pertaining to groundwater and movement of material underground at Yucca Mountain will be discussed in the repository EIS.

Comment Code: Public Hearing Transcript 2-23

Location of EIS Revision(s): None required

Response: Potential human-health risks as a result of belowground contamination created by past underground weapons testing are discussed in the Occupational and Public Health and Safety Section of Volume 1, Chapter 5, and in Volume 1, Appendix H, of the NTS EIS. Groundwater modeling for underground test areas within the NTS boundaries have consistently indicated that there will be no migration of tritium contamination at levels above EPA guidelines outside the current boundaries of the NTS and the U.S. Air Force-controlled areas. Further, the most recent results from the Environmental Restoration Project predict no detectable tritium contamination above natural background levels outside controlled areas.

Comment Code: Public Hearing Transcript 2-24

Location of EIS Revision(s): None required

Response: The NTS has been withdrawn from all appropriation under public land laws, including mining and mineral leasing laws. As the NTS mission changes, modifications to the withdrawal orders may become necessary and mineral development may become part of the consideration. These types of issues will likely become part of the process; interest through participation in that effort should be continued.

Comment Code: Public Hearing Transcript 2-25

Location of EIS Revision(s): None required

Response: Refer to Response Comment Code Public Hearing Transcript 2-22 and Section 1.1 of Volume 3.

Comment Code: Public Hearing Transcript 2-26

Location of EIS Revision(s): None required

Response: The DOE shares the concern for human health and makes every effort to assure a safe environment for both workers and the public. Appendix H discusses the potential health impacts of proposed activities. Please refer to Section 1.2 for information on DOE's policy toward public health.

Comment Code: Public Hearing Transcript 2-27

Location of EIS Revision(s): None required

Response: It is difficult for an organization to create a sense of trust in the public. In the process of developing this EIS, the DOE has tried to be open in discussing issues and in inviting a review and evaluation of what is being presented. In that regard the DOE is trying to build the level of public trust.

Comment Code: Public Hearing Transcript 2-28

Location of EIS Revision(s): None required

Response: The incident referred to was not on the NTS and involved no DOE wastes. The waste-acceptance criteria used for waste to be disposed of at the Beatty site was not the same as that used for waste intended for disposal on the NTS. The DOE/NV waste-acceptance criteria is very stringent and requires generators of waste intended for disposal on the NTS to prepare and control their waste and document the characterization of the waste in an acceptable manner. These criteria include site-specific requirements deemed necessary for safe operation and waste management on the NTS. One of the DOE/NV waste-acceptance criteria in place to prevent the situation that evidently has occurred at the Beatty site is the restriction on free liquids in waste accepted. The criteria also limits the amount of allowable total moisture content within the waste material.

Geologic characteristics of the Beatty site that are different from those at the NTS disposal sites would also be expected to contribute to differences in the potential for contamination of the groundwater. Monitoring of the vadose zone at both NTS disposal sites has taken place, and will continue to take place. There is no detected contamination from either disposal site on the NTS that is migrating toward the groundwater.

Comment Code: Public Hearing Transcript 2-29

Location of EIS Revision(s): None required

Response: As noted in Chapter 4 of the Draft NTS EIS, one of the unavoidable consequences of past testing actions at the NTS has been the contamination of the deep subsurface environment with radionuclides. The commentor is correct in noting that fracturing of the glass formed by the detonations may increase the potential for leaching of radionuclides over periods of hundreds or thousands of years. The DOE has sponsored a great deal of research to determine the fate of the radionuclides released during weapons tests and will continue to investigate the potential for future releases via leaching from the melt glasses that remain under the NTS.

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Comment Code: Public Hearing Transcript 3-1

Location of EIS Revision(s): Volume 1, Section 4.1.1.5

Response: Classified waste accepted for disposal at the NTS is classified primarily because of the shape of the articles that make up the waste material. The general nuclide content and chemical form is not specifically classified in nature and is basically the same as other low-level waste. This waste is disposed of in separate trenches, owing to the extra security measures needed. There are no environmental or human-health risks associated with the disposal of classified waste that are not also attributed to other low-level wastes.

Comment Code: Public Hearing Transcript 3-2

Location of EIS Revision(s): None required

Response: The scope of the NTS EIS includes only those sites inside the state of Nevada where DOE is considering programmatic changes. This includes the NTS, the Tonopah Test Range, portions of the Nellis Air Force Range Complex, and the proposed Solar Enterprise Zone sites at the NTS, Dry Lake Valley, Eldorado Valley, and Coyote Spring Valley. The facilities located in Las Vegas and at Nellis Air Force Base are included in the NTS EIS as part of the programs they support. Many of the site support activities are discussed in Volume 1, Appendix A, Section A.6. Facilities outside of the state of Nevada are not within the scope of this EIS.

Comment Code: Public Hearing Transcript 3-3

Location of EIS Revision(s): None required

Response: Sites located outside of Nevada are not within the scope of this EIS. Please see the response to Comment Code Public Hearing Transcript 3-2 for further detail.

Comment Code: Public Hearing Transcript 3-4

Location of EIS Revision(s): Volume 1, Section 1.1

Response: Each subcritical experiment will have unique impacts. They are described in Chapter 5, "Environmental Consequences." These impacts were derived from Appendix J which contains classified material quantities and design concepts. This information is classified by the DOE for nonproliferation and national security reasons. Volume 1, Section 1.1 has been revised to classify the information in each portion of the NTS EIS.

Comment Code: Public Hearing Transcript 3-5

Location of EIS Revision(s): None required

Response: The test will be performed at the Lyner Complex in Area 1 of the NTS. The Lyner Complex is described in detail in the Final NTS EIS, Appendix A, Section A.1.1.1.3.

Comment Code: Public Hearing Transcript 3-6

Location of EIS Revision(s): None required

Response: Information on material quantities and design concepts are classified by the DOE for nonproliferation and national security reasons, but the expected environmental impacts of subcritical tests were included in Chapter 5, Environmental Consequences.

Comment Code: Public Hearing Transcript 3-7

Location of EIS Revision(s): None required

Response: Appendix A, Section A.1.1.1.3, describes the Lyner Complex in detail and also describes its use for conducting the subcritical experiments.

Comment Code: Public Hearing Transcript 3-8

Location of Revision(s): None required

Response: The intent of Volume 1, Figure 4-3 is to depict lands that were withdrawn for DOE use in connection with the NTS. As stated in the NTS EIS, lands withdrawn under Public Land Order 1662 are used by the DoD for their ongoing operations and are not considered in this EIS for any alternative use by the DOE.

Comment Code: Public Hearing Transcript 3-9

Location of EIS Revision(s): None required

Response: According to the Council on Environmental Quality, the No Action Alternative consists of continuing with the present course of action until that action is changed (46 FR 18026; March 23, 1981). Therefore, Alternative 1 (Continue Current Operations) was considered the No Action Alternative for this EIS.

Comment Code: Public Hearing Transcript 3-10

Location of EIS Revision(s): None required

Response: Under Alternative 1, activities in the five program categories would continue in the same manner and degree as they have within the past 3 to 5 years. Construction of new facilities would only occur in Alternative 3, not Alternative 1 as the comment suggests.

Comment Code: Public Hearing Transcript 3-11

Location of EIS Revision(s): None required

Response: Refer to Section 1.1, Volume 3 and Section 3.2.6.1 of Volume 1, for a discussion of the relationship between the Yucca Mountain and the NTS. Legislation that is pending before Congress, relating to interim storage of spent nuclear fuel from commercial power reactors is speculative at this point. The location of such a facility at the NTS is not considered a reasonable foreseeable event suitable for consideration in the NTS EIS.

Comment Code: Public Hearing Transcript 3-12

Location of EIS Revision(s): None required

Response: Please refer to Section 1.1 of Volume 3.

Comment Code: Public Hearing Transcript 3-13

Location of EIS Revision(s): None required

Response: Please see Section 1.2 of Volume 3.

Comment Code: Public Hearing Transcript 3-14

Location of EIS Revision(s): None required

Response: The comment relative to Alternative 4 is noted. As a point of clarification, it should be recognized that Alternative 4 represents the alternate use of withdrawn lands and is not a No Action Alternative.

Comment Code: Public Hearing Transcript 3-15

Location of EIS Revision(s): None required

Response: Support for return of lands to the public is noted. Alternative 4 evaluates the potential turn-back of lands. The DOE does not have the authority to relinquish lands for disposition to any entity other than the Department of the Interior. Please refer to Section 1.8 of Volume 3.

Comment Code: Public Hearing Transcript 3-16

Location of EIS Revision(s): None required

Response: The DOE acknowledges that underground nuclear tests and subcritical hydrodynamic tests utilizing special nuclear material would represent, in large part, an irreversible and irretrievable commitment of the subsurface for any subsequent uses. A description of the irreversible and irretrievable effects can be found in Volume 1, Chapter 5, Section 5.7, "Irreversible and Irretrievable Commitment of Resources."

A description of the subsurface environment subject to the effects of underground nuclear tests and subcritical hydrodynamic tests utilizing special nuclear material can be found in Volume 1, Section 4.1.4.2.

Comment Code: Public Hearing Transcript 3-17

Location of EIS Revision(s): Summary; Volume 1, Section 5.5

Response: Unavoidable adverse impacts of past underground nuclear-testing activities refer to the impacts created to the subsurface environment during those activities, and are applicable to Alternatives 1, 2, 3, and 4. A sentence referring to the unavoidable adverse impacts of past underground nuclear testing has been added to the introduction of Volume 1, Section 5.5.

Comment Code: Public Hearing Transcript 3-18

Location of EIS Revision(s): None required

Response: Any tests conducted by the DOE would have impacts, as described in Chapter 5. The sentence in the transcript is not correctly quoted from the NTS EIS. The sentence which appears in the summary section entitled, Unavoidable Adverse Impacts, has since been modified, and now reads "other testing and experimental activity including subcritical experiments in support of stockpile stewardship programs would have smaller impacts." This sentence does not include any reference to nuclear yields and it actually refers to hydrodynamic tests and dynamic experiments.

Comment Code: Public Hearing Transcript 3-19

Location of EIS Revision(s): None required

Response: The DOE/NV believes that it is important to have one that addresses both manmade and natural resources. By considering both types of resources in the same planning process, a more comprehensive analysis of efficiency and impacts can be conducted.

It is true that natural resources are not the primary management focus of DOE's NTS missions. It has been decided at the highest levels of the federal government that the NTS should be dedicated to specific missions, none of which focus primarily on natural resources. However, the is designed to ensure that natural resources are considered during mission planning. As stated in Volume 2, Section 4-1, if there are conflicts between the use of manmade resources and natural resources, they will be identified and evaluated as part of the National

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Environmental Policy Act process. Therefore, use of manmade resources will not "prevail" over natural resources without thorough evaluation and public input.

Comment Code: Public Hearing Transcript 3-20

Location of EIS Revision(s): None required

Response: The DOE/NV realizes and acknowledges that the long-term impacts of many NTS activities on both the natural environment and social groups such as American Indians are not well understood. To better protect the natural environment, the effects of DOE activities on natural resources will be monitored and adaptively managed (as described in Volume 2, Section 2.1, Step 7, and Section 3.3.6) to ensure that unidentified or poorly understood impacts are detected and evaluated. To better understand impacts on social groups, the DOE is actively pursuing comments and participation from American Indian groups and others that may value the resources on the NTS. The social values of those groups and their perspective on ecosystem management will be incorporated into the .

Comment Code: Public Hearing Transcript 3-21

Location of EIS Revision(s): None required

Response: As stated in the second paragraph of Volume 2, Chapter 4 and elsewhere in the document, the DOE will consider modifying a mission if that mission conflicts with one of the resource management goals of the.

Comment Code: Public Hearing Transcript 3-22

Location of EIS Revision(s): None required

Response: As stated in Volume 2, Section 3.3.3, the timeframe for evaluating impacts on natural resources will be much longer than the 10-year planning framework. This will be accomplished by selecting goals that reflect longer, more appropriate timeframes for the management of natural resources.

Comment Code: Public Hearing Transcript 3-23

Location of EIS Revision(s): None required

Response: When possible, changes in or impacts on resources should be monitored directly instead of via models. However, models will be necessary to predict future impacts of activities and to evaluate impacts that are otherwise impossible to measure. All models will be tested and peer-reviewed to ensure they are adequate.

Comment Code: Public Hearing Transcript 3-24

Location of EIS Revision(s): None required

Response: Rather than a goal of the not be achieved, it has been noted that Citizen Alert would prefer that missions be modified. Citizen Alert will have opportunities to comment on missions for which this may occur during the National Environmental Policy Act planning process for those missions.

Comment Code: Public Hearing Transcript 3-25

Location of EIS Revision(s): None required

Response: The identification of new missions that interfere with critical operations of existing missions or create extra costs for these missions will be done as part of the National Environmental Policy Act process. The NTS EIS contains this type of information for projects currently under consideration. Impacts of activities proposed in the future will be discussed in the environmental assessments or environmental impact statements for those projects.

Comment Code: Public Hearing Transcript 3-26

Location of EIS Revision(s): None required

Response: The DOE believes the goal for site-support activities and facilities should remain separate from the goal for health and safety so that a thorough analysis of each resource issue can be made independently for each activity. One of the purposes of the is to ensure all resource issues are considered when making land-use decisions. The DOE believes this satisfies the commentor's concern for the integration of resource-issue goals.

Comment Code: Public Hearing Transcript 3-27

Location of EIS Revision(s): None required

Response: The DOE appreciates the support of the commentor and agrees that proper planning must take into account suitable slopes, drainages, and other factors.

Comment Code: Public Hearing Transcript 3-28

Location of EIS Revision(s): None required

Response: As noted in the description of the affected environments (Volume 1, Section 4.1.5.2 of the NTS EIS), the available water supply for the NTS is based upon the estimated perennial yields of the basins that comprise the facility. While surface water supplies in the region have been gauged and thus measured, it is only possible to estimate the volume of water that is held in storage and the flow of that water through the subsurface. The DOE has adopted the perennial yield estimates of the Nevada State Engineer as these values form the basis for water-management planning in the state. The purpose is to provide the framework for

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resource management; in this case the goals for water are presented in Volume 1, Section 5.5 of the NTS EIS. The baseline conditions are presented in Chapter 4 of Volume 1 of the NTS EIS.

The commentor is correct in observing that the desert has a very low recharge rate. With respect to the question as to when the water will run out, there is no clear-cut answer. As long as pumping rates do not exceed the perennial yields of the basin, water may be withdrawn in perpetuity. In those cases where basins are over-drafted, the economics of water will be the largest factor in determining when the supplies will have been diminished to unusable levels.

Comment Code: Public Hearing Transcript 3-29

Location of EIS Revision(s): Chapter 4, Section 4.1.3, Appendix G

Response: The DOE also believes it is important for American Indian groups to participate in the evaluation of activities at the NTS. Consultation with the Consolidated Group of Tribes and Organizations has been underway since 1985. The American Indian Writers Subgroup, have prepared portions of this EIS. Consultation on this EIS and other subjects will continue into the future.

Comment Code: Public Hearing Transcript 3-30

Location of EIS Revision(s): None required

Response: The purpose of the is to establish a framework and process to assume that there is a balance between mission objectives and resource concerns. If there are impacts, mitigation measures would be considered.

Comment Code: Public Hearing Transcript 3-31

Location of EIS Revision(s): Volume 2, Section 4.8

Response: Text has been changed to delete the word "superior." The NTS is located within the Nevada Intrastate Air Quality Control Region. The region has been designated as an attainment area with respect to the National Ambient Air Quality Standards. Information on the National Ambient Air Quality Standards can be found in Volume 2, Section 4.1.7, "Air Quality and Climate." An area is designated by the EPA as being in attainment for a specific criteria pollutant if ambient concentrations of that pollutant are below the National Ambient Air Quality Standards.

The DOE maintains a network of air sampling stations for radiological parameters. Some radioactivity detected by on-site air monitoring stations is attributed to the resuspension of soil contaminated from past aboveground nuclear weapons testing that was conducted between 1951 and 1962. Monitoring of airborne particulate matter, noble gases, and tritiated water vapor on the NTS in 1993 indicated on-site levels that were consistent with background concentrations. The external-exposure monitoring network indicated a stable level of gamma radiation levels from year to year. Airborne releases of radioactivity have occurred from past aboveground weapons testing, but in recent years, no radioactivity from operations at the NTS has been detected at any off-site monitoring station.

Comment Code: Public Hearing Transcript 3-32

Location of EIS Revision(s): None required

Response: The comment correctly states that plutonium is a contaminant in the soils at the NTS. See the response to Comment Code Public Hearing Transcript 3-31.

Comment Code: Public Hearing Transcript 3-33

Location of EIS Revision(s): None required

Response: Not all of the areas at the NTS are contaminated. Mineral resources that are outside the bounds of the underground nuclear testing zones could be open to exploration with certain restrictions consistent with the Framework of the and the land withdrawal orders.

Comment Code: Public Hearing Transcript 3-34

Location of EIS Revision(s): None required

Response: Refer to Section 1.12 of Volume 3.

Comment Code: Public Hearing Transcript 3-35

Location of EIS Revision(s): None required

Response: Please refer to Section 1.6 of Volume 3.

Comment Code: Public Hearing Transcript 4-1

Location of EIS Revision(s): None required

Response: The use of today's climatic conditions for the purpose of analyzing impacts expected during the 10-year timeframe covered by this EIS is justified. Available evidence obtained from the geologic record of the NTS, which spans a much larger timeframe than 10,000 years, is used for other studies such as the Performance Assessment for the Area 5 Radioactive Waste Management Site at the NTS. Studies such as the Area 5 Performance Assessment are used in conjunction with environmental assessments to determine the impacts from conducting projects and activities at the NTS.

Comment Code: Public Hearing Transcript 4-2

Location of EIS Revision(s): Volume 1, Section 1.4

Response: Related EISs, including DOE programmatic EISs, are discussed in Volume 1, Section 1.4. Additional information has been added to clarify the relationship to other DOE EISs.

Comment Code: Public Hearing Transcript 4-3

Location of EIS Revision(s): None required

Response: Public comment opportunities for DOE programs in general occurred during the public comment period for the programmatic EISs. The public comment period for the NTS EIS included an opportunity to comment on sites selected for certain activities if that activity is sited at the NTS through a decision in a programmatic Record of Decision. Public comment on project-specific EISs will also occur during the public comment period for that EIS. Please see response to Comment Code Public Hearing Transcript 4-2.

Comment Code: Public Hearing Transcript 4-4

Location of EIS Revision(s): Volume 1, Section 2.4.2

Response: Volume 1, Section 2.4.2 now clearly indicates the DOE's waste management objective for the NTS and includes the disposal of wastes generated at other DOE sites.

Comment Code: Public Hearing Transcript 4-5

Location of EIS Revision(s): None required

Response: The DOE does not agree that this EIS is being prepared on a "fast track." The Notice of Intent regarding this EIS was issued in August of 1994. Though the goal of the Secretary of Energy is to complete EIS's in 15 months, this EIS has taken longer than 15 months to complete. Such things as maximum comment periods, opportunities to comment on the Draft Implementation Plan, and completion of a transportation study with public participation have been efforts to maximize the two-way public dialogue on the content of the NTS EIS. These opportunities have also resulted in extending the time needed to complete the NTS EIS. The Record of Decision will be issued no sooner than 30 days after the issuance of the Final NTS EIS.

Comment Code: Public Hearing Transcript 4-6

Location of EIS Revision(s): None required

Response: As discussed in Volume 1, Section 5.1.1.12 "Environmental Justice," analysis involves two tiers of investigation. One is the determination of significant and adverse impacts as a result of the alternative. The other is an evaluation of whether a minority or low-income population is disproportionately affected by these significant and adverse impacts. If there are no significant and adverse impacts, there would be no significant, disproportionately high and adverse impacts experienced by minority and low-income populations.

The region of influence for the Environmental Justice analysis includes Clark, Nye, and Lincoln counties. Using a geographic information system, the transportation routes were layered over census block groups as shown in Figures 4-49 and 4-50. The geographic information system indicated the total mileage of transportation routes per county and how many miles of these routes went through areas of minority and/or low-income populations.

The comment is correct when it states that some of the routes that are considered in the transportation study actually go through areas where there are high proportions of minority or low-income groups. Total mileage of the designated transportation routes in the three counties in the Environmental Justice region of influence are 336 km (209 mi) in Clark County, 546 km (339 mi) in Nye County, and 275 km (171 mi) in Lincoln County. The total mileage of designated highways that run through areas of low-income or minority populations are 6 km (4 mi) (1.91 percent) in Clark County, 10 km (6 mi) (0.02 percent) in Nye County, and 0 km (0 mi) in Lincoln County.

Each county has less than 2 percent of its designated highways that run through areas of low-income or minority populations. Using a threshold of 50 percent to indicate a disproportionate effect, this analysis indicates that minority and/or low-income populations would not be disproportionately affected by transportation routes even if they represented a significant and adverse impact.

Comment Code: Public Hearing Transcript 4-7

Location of EIS Revision(s): None required

Response: The NTS EIS examined transportation issues both in Volume 1, Chapter 5 of the NTS EIS and in a separate appendix (Volume 1, Appendix I). The selection of an alternative, which will appear in the Record of Decision, will include a review of all the effects of the alternative, including transportation issues.

Comment Code: Public Hearing Transcript 4-8

Location of EIS Revision(s): None required

Response: See Section 1.6 of Volume 3 and B.1.2 of Attachment B to Appendix I.

Comment Code: Public Hearing Transcript 4-9

Location of EIS Revision(s): None required

Response: Not all accidents result in a release. Although it is true that the accident rate is higher in urban areas, the accidents are less severe, meaning fewer releases would be expected. A release in an urban area would expose more people than a release in a rural area. Routes are chosen by the carrier under the U.S. Department of Transportation regulations. The primary criterion is to minimize radiological risk. This is accomplished by minimizing the distance traveled, using roads in good condition (which have lower accident rates), and avoiding densely populated areas whenever possible.

Comment Code: Public Hearing Transcript 4-10

Location of EIS Revision(s): None required

Response: Alternative 2 is presented to evaluate the closure of the NTS. Other Alternatives evaluated clean-up of the NTS. Following review of the comments, Alternative 3 was identified as the preferred Alternative.

Comment Code: Public Hearing Transcript 4-11

Location of EIS Revision(s): None required

Response: Transportation of low-level and mixed waste has been taken very seriously and analyzed very carefully to estimate the risks to workers and the public for each Alternative in this EIS. Transportation issues of concern to the local public are discussed in detail in Volume 1, Appendix I. In addition, a detailed risk analysis has been conducted; the results are summarized in Appendix I.

Comment Code: Public Hearing Transcript 4-12

Location of EIS Revision(s): None required

Response: Please see response to Comment Code Public Hearing Transcript 4-11.

Comment Code: Public Hearing Transcript 4-13

Location of EIS Revision(s): None required

Response: Immediate emergency response is provided by local emergency response personnel. The DOE responds only at the request of competent state authority. Oversight is provided by defining waste acceptance criteria for the types of waste that can be shipped to the NTS. The NTS would be aware of when shipments are expected to arrive, and would probably also know the route being taken. Please see Section 1.6 of Volume 3 for a discussion of route selection.

Comment Code: Public Hearing Transcript 4-14

Location of EIS Revision(s): None required

Response: The Yucca Mountain Project and related waste-transportation issues would occur outside of the 10-year timeframe of the NTS EIS. For additional discussion on the relationship between Yucca Mountain and the NTS, please refer to Volume 3, Section 1.1, and Volume 1, Section 3.2.6.1. Additional information with regard to transportation can be found in Appendix I of this EIS and Volume 3, Section 1.6.

Comment Code: Public Hearing Transcript 4-15

Location of EIS Revision(s): None required

Response: The comment regarding return of the NTS to the Western Shoshone Nation is noted. Please refer to Volume 3, Section 1.3 and Section 3.2.3 for a discussion regarding the Ruby Valley Treaty of 1863.

Comment Code: Public Hearing Transcript 4-16

Location of EIS Revision(s): None required

Response: Refer to Volume 1, Section 3.2.2.

Comment Code: Public Hearing Transcript 4-17

Location of EIS Revision(s): None required

Response: Refer to Comment Code Public Hearing Transcript 4-15.

Comment Code: Public Hearing Transcript 4-18

Location of EIS Revision(s): None required

Response: As stated in Volume 1, Section 2.4.3, of the Draft NTS EIS, "The DOE is committed to the goal of remediating contaminated sites in accordance with the requirements of the responsible agencies." Under Alternatives 1, 3, and 4, the DOE/NV would perform environmental cleanup and restoration at the NTS to ensure that risks to the environment and to human health and safety, as posed by inactive and surplus facilities and sites, are either eliminated or reduced to protective levels.

Comment Code: Public Hearing Transcript 4-19

Location of EIS Revision(s): None required

Response: The use of the NTS tunnels for the storage of hydrogen is not considered in the NTS EIS. No current or proposed NTS activities would require an underground hydrogen-storage location.

Comment Code: Public Hearing Transcript 4-20

Location of EIS Revision(s): None required

Response: Chapter 3 of Volume 2 of the NTS EIS, "*Framework for the Resource Management Plan*," describes the DOE's understanding of ecosystem management. That chapter, and the DOE's approach to ecosystem management on the NTS, were developed by a knowledgeable and qualified team of ecologists who have worked on the NTS for many years and are familiar with the ecosystems at that site. Prior to developing

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the *Framework for the Resource Management Plan*, they conducted an exhaustive review of the literature and contacted experts and other government agencies to learn about current ecosystem management philosophies and practices. Information gained from that review was incorporated into DOE's approach for ecosystem management. As part of the review process for the NTS EIS, the *Framework for the Resource Management Plan* is being reviewed by experts within other agencies. The ideas also will be incorporated into the *Resource Management Plan* and DOE's approach for ecosystem management on and around the NTS.

Comment Code: Public Hearing Transcript 4-21

Location of EIS Revision(s): None required

Response: As described in Volume 2, Section 1.6, the *Resource Management Plan* will be developed with the participation of the public and other interested parties. The DOE is seeking ideas from public participants that will help define the content of the *Resource Management Plan*, identify information needs, and develop a process for making decisions based on ecosystem management. The commentor is invited to join in the process to ensure that her concerns are addressed.

Comment Code: Public Hearing Transcript 4-22

Location of EIS Revision(s): Volume 1, Section 4.4.11

Response: One of the purposes of the Environmental Restoration Project at the Central Nevada Test Area is to characterize its groundwater system and to design a monitoring program that is consistent with the characterization results. Recent study results have indicated that the hydrologic situation at this site is more complex than formerly thought. The NTS EIS text has been modified to reflect this latest information more clearly. Monitoring results are published annually in the Annual Site Environmental Report, and characterization studies are published upon completion. There are no undisclosed migration rates.

Although the hydrologic complexity has implications bearing on the design of the nearfield monitoring system, the potential consequences beyond the immediate vicinity, are not significant in terms of human health and safety or in terms of exposure of the accessible environment to contaminants. The risk assessments presented in the NTS EIS are based on the latest validated information. As new data are developed, they will be considered in monitoring, future environmental analyses, and in determining the appropriate degree of subsurface access restrictions.

Comment Code: Public Hearing Transcript 4-23

Location of EIS Revision(s): None required

Response: Radioactive waste-disposal management of the Beatty site was not a DOE function. The waste-acceptance criteria used for waste to be disposed of at the Beatty site was not the same as that used for waste intended for disposal on the NTS. The DOE/NV waste-acceptance criteria is very stringent and requires generators of waste intended for disposal on the NTS to prepare and control their waste and document the characterization of the waste in an acceptable manner. These criteria include site-specific requirements deemed necessary for safe operation and waste management on the NTS. One of the DOE/NV waste-acceptance criteria in place to prevent the situation that evidently has occurred at the Beatty site is the

restriction on free liquids in waste accepted. The criteria also limits the amount of allowable total moisture content within the waste material.

Geologic characteristics of the Beatty site that are different from those at the NTS disposal sites would also be expected to contribute to differences in the potential for contamination of the groundwater. Monitoring of the vadose zone at both NTS disposal sites has taken place, and will continue to take place. There is no detected contamination from either disposal site on the NTS that is migrating toward the groundwater.

Comment Code: Public Hearing Transcript 4-24

Location of EIS Revision(s): None required

Response: The potential effects to humans are described in Appendix H, Health and Safety, and in Section 5 of Volume 1.

Comment Code: Public Hearing Transcript 4-25

Location of EIS Revision(s): None required

Response: The suggestion to close the NTS is noted. Volume 1, Section 3.2.2 discusses this issue further.

Comment Code: Public Hearing Transcript 4-26

Location of EIS Revision(s): None required

Response: The NTS currently provides disposal capability for NTS-generated waste and other DOE-approved waste generators. The use of the NTS for future disposal of DOE waste will be made in conjunction with the Waste Management Programmatic EIS. The NTS is under consideration for the central or regional management of DOE wastes. Thirteen other sites are also being considered (Volume 1, Section 1.4). The DOE has not yet made a programmatic decision on regional or centralized management.

Comment Code: Public Hearing Transcript 4-27

Location of EIS Revision(s): None required

Response: The commentor's support for site closure is noted.

Comment Code: Public Hearing Transcript 4-28

Location of EIS Revision(s): None required

Response: See response to Comment Code Public Hearing Transcript 4-2.

Comment Code: Public Hearing Transcript 4-29

Location of EIS Revision(s): Volume 1, Section 1.4

Response: While the Final NTS EIS evaluates the impact of storing weapons-grade fissile material, including plutonium, the decision to designate the NTS as a storage site will be made in association with the Stockpile Stewardship and Management Programmatic EIS and the Storage and Disposition of Weapons-Usable Fissile Materials EIS currently in draft. The Record of Decision for the NTS will be issued in 1996, well before the Programmatic EISs are completed.

Comment Code: Public Hearing Transcript 4-30

Location of EIS Revision(s): None required

Response: See response to Comment Code Public Hearing Transcript 4-2.

Comment Code: Public Hearing Transcript 4-31

Location of EIS Revision(s): None required

Response: See response to Comment Code Public Hearing Transcript 4-2.

Comment Code: Public Hearing Transcript 4-32

Location of EIS Revision(s): None required

Response: The *Resource Management Plan* is being developed as a tool to be used for future National Environmental Policy Act documents and planning decisions and was never intended for use on the current NTS EIS. As stated in Section 1.4 of Volume 2, it would not be possible to complete the *Resource Management Plan* before the NTS EIS was completed. The *Resource Management Plan* will take one or more additional years to complete and the NTS EIS could not be delayed that long because a comprehensive evaluation of current and proposed activities is needed now in order to develop a coordinated plan for use of the NTS.

Comment Code: Public Hearing Transcript 4-33

Location of EIS Revision(s): None required

Response: The DOE disagrees that the NTS EIS is being finished in a hurry.

Because the Council on Environmental Quality believes that prescribed, universal time limits for preparing an EIS are too inflexible, each federal agency is encouraged to set time limits appropriate to individual actions.

However, in practice, EIS preparation often takes longer depending on the complexity of the action, the scope of the alternatives and impacts being evaluated, and the extent of internal agency review. The objective of the

Secretary of the DOE for writing and producing EISs is 15 months. The preparation of this EIS, which began in August 1994 with the publication of the Notice of Intent, has taken longer than 15 months. The size of the actions and areas involved and the time required to obtain relevant information have resulted in an increase in the time required.

In addition, the DOE has increased the public participation process through maximum comment periods and other means. For example, generally a lead agency must allow at least 45 days for comment on a Draft EIS; however, this period may be extended by the lead agency (40 CFR 1506.10). In this case, the DOE requested that the comment period be extended to 90 days to facilitate the receipt of comments. Thus, this EIS has not been rushed to completion.

Comment Code: Public Hearing Transcript 4-34

Location of EIS Revision(s): None required.

Response: It is assumed that the portion of the *Resource Management Plan* being referred to in this comment is the following text found under Step 3 of Volume 2, Section 2.1:

“The third step in developing this *Resource Management Plan* will be to identify and list the management actions that the DOE/NV will take during land-use planning and resource management to meet the goals for each resource issue and constraint ... DOE/NV will endeavor to expand existing working relationships and to enter into other agreements with public agencies, business and environmental organizations, and other interested parties.”

The NTS Development Corporation is the name of the local Community Reuse Organization that has received DOE grant money. This is only one of many DOE-funded Community Reuse Organizations throughout the country that represent business communities near DOE facilities. Wherever possible, the DOE is committed to promoting the economic stability and growth of communities impacted by the DOE's facility operations, and such reuse organizations serve to further this commitment. A clearly stated goal of the Land and Facility-Use Management Policy is to develop land and facility uses on the NTS that “... support the Department's critical missions, stimulate the economy, and protect the environment” (Volume 2, Section 1.3). Therefore, input from the NTS Development Corporation would be valuable in helping to meet this goal.

The DOE wants to include as many stakeholders as possible in the process of establishing *Resource Management Plan* goals. Therefore, as stated in the plan, the DOE/NV will continue to pursue avenues whereby other citizens, interest groups, and organizations can provide recommendations regarding economic sustainability and growth within their community.

Comment Code: Public Hearing Transcript 4-35

Location of EIS Revision(s): None required

Response: The DOE appreciates the recommendation. Specific National Environmental Policy Act analysis will occur on a project-by-project basis. This analysis will reference (or tier from) the NTS EIS to avoid unnecessary duplication and paperwork, as recommended by the Council on Environmental Quality.

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Comment Code: Public Hearing Transcript 4-36

Location of EIS Revision(s): None required

Response: Support for maintaining capabilities is noted. Alternatives 1, 3, and 4 evaluate operations at the NTS that would likely result in the continued use of the skilled NTS workforce.

Comment Code: Public Hearing Transcript 4-37

Location of EIS Revision(s): None required

Response: Routes are selected by the carrier in strict accordance with the U.S. Department of Transportation regulations that require minimizing the radiological risk. The risk along any of the routes inside Nevada has been calculated to be extremely small (on the order of less than one latent cancer fatality in 10 years compared to the average annual number of cancer deaths in Nevada from all causes of around 2,500). Refer to Section 1.6 of Volume 3.

Comment Code: Public Hearing Transcript 4-38

Location of EIS Revision(s): None required

Response: Your comment is noted concerning the positive aspect of rail transportation.

Comment Code: Public Hearing Transcript 4-39

Location of EIS Revision(s): None required

Response: The statement in the NTS EIS that the NTS is probably the most geologically well known large area is well based on the thousands of technical reports that have been issued not only through DOE publications, but also by such highly respected organizations as the Nevada Department of Conservation and Natural Resources, the U.S. Geological Survey, the Geological Society of America, and the National Academy of Sciences. The wealth of published information is supported by data drawn from extensive characterizations of both the surficial geology and the subsurface conditions. In fact, the DOE is considered by many to be at the forefront of investigations into many areas because of the detailed investigations and sophisticated testing that have been and continue to be done under its sponsorship at the NTS.

Comment Code: Public Hearing Transcript 4-40

Location of EIS Revision(s): None required

Response: The geologic community, including scientists from the national laboratories, universities, and federal and state agencies, have been studying the geology of the NTS for over four decades. Under Alternatives 1, 3, and 4, the National Environmental Research Park will continue to provide an avenue for the geologic community to study the geologic environment of the NTS.

Comment Code: Public Hearing Transcript 4-41

Location of EIS Revision(s): None required

Response: See response to Comment Code Public Hearing Transcript 4-39.

Comment Code: Public Hearing Transcript 4-42

Location of EIS Revision(s): None required

Response: Alternative 2 and Alternative 4 were identified as possible alternatives during the public scoping process for the NTS EIS. These alternatives were added to provide an analysis of a full range of alternatives. Alternative 3, which includes underground nuclear tests, along with the public education activities of Alternative 4, is identified as the Preferred Alternative in the Final NTS EIS.

Comment Code: Public Hearing Transcript 4-43

Location of EIS Revision(s): None required

Response: The DOE is committed to environmental restoration with the purpose of minimizing, managing, and cleaning up contamination, including PCBs, at DOE sites and ensuring that risks to human health and safety are eliminated or reduced to levels prescribed by Federal and State regulations. The DOE established the Office of Environmental Restoration/Waste Management for this purpose. Funding and schedules for environmental restoration at DOE facilities are outlined in the Baseline Environmental Management Report scheduled for publication in early summer this year.

Comment Code: Public Hearing Transcript 4-44

Location of EIS Revision(s): None required

Response: The DOE has maximized the public input process for this complex NTS EIS and a second draft is not necessary. It is acknowledged that the document is complex and that it contains much information and data about the DOE and the programs being considered into the future. Within the framework established in the Notice of Intent and Implementation Plan, the topics being considered in this sitewide document reflect the broad nature of the future actions being considered. The opportunities for public participation, both in the planning for and preparation of the document, were intended to maximize the exchange of information.

Comment Code: Public Hearing Transcript 4-45

Location of EIS Revision(s): None required

Response: The location of an interim spent nuclear fuel storage facility at the NTS is considered speculative, and is not a reasonably foreseeable activity appropriate for inclusion in the NTS EIS. Should such a facility be considered for location at the NTS in the future, suitable environmental documentation will be prepared under the National Environmental Policy Act, and include consideration of public comments.

Comment Code: Public Hearing Transcript 4-46

Location of EIS Revision(s): None required

Response: The DOE is acting in close coordination with the federal-grant funded Corporation for Solar Technology and Renewable Resources. The inclusion of the three possible Solar Enterprise Zone sites located off of the NTS enabled preliminary National Environmental Policy Act review to occur. The Solar Enterprise Zone concept analyzed in this EIS includes development of solar energy facilities at both the NTS and other alternative sites. Alternative Solar Enterprise Zone sites may be used in conjunction with the NTS to minimize infrastructure improvements required and to improve access to power markets (Appendix A, Section A.4.3.1). The Eldorado Valley, Dry Lake Valley, and Coyote Spring Valley sites were identified as potentially feasible sites for such facilities by the Corporation for Solar Technology and Renewable Resources. The DOE placed financial grants with the Corporation for Solar Technology and Renewable Resources to promote development of solar energy technology. Since development of these sites could be considered a connected action to development of solar energy by the DOE and the DOE facilities at the NTS, programmatic evaluation of the impacts of development of these sites is required by the DOE (as part of its) National Environmental Policy Act process.

Comment Code: Public Hearing Transcript 4-47

Location of EIS Revision(s): None required

Response: The Council on Environmental Quality regulations do not require the selection of a Preferred Alternative in a Draft EIS. Alternative 3 plus part of Alternative 4 has been selected as the Preferred Alternative in the Final NTS EIS.

Comment Code: Public Hearing Transcript 4-48

Location of EIS Revision(s): None required

Response: The Final NTS EIS identifies Alternative 3 plus the public educational activities of Alternative 4 as the DOE Preferred Alternative.

Comment Code: Public Hearing Transcript 4-49

Location of EIS Revision(s): None required

Response: The DOE disagrees that the public will not have input on any proposed revisions before the issuance of a Record of Decision.

After preparing an EIS, at the time of its decision, a federal agency must prepare a Record of Decision, a written public record explaining why it has taken a particular course of action. The Record of Decision must be made available to the public through appropriate public notice.

The Record of Decision will include a statement explaining the decision, and explanation of alternatives that were considered and those that are environmentally preferable, factors considered by the agency in making the

decision, and explanation of which mitigation measures were adopted (and if mitigation measures were not adopted, an explanation of why not), and monitoring and enforcement programs for any adopted mitigation measures.

Any interested party may comment on the Record of Decision and has 30 days to do so.

Following completion of the Record of Decision, the DOE will prepare a *Mitigation Action Plan* that addresses mitigation commitments expressed in the Record of Decision. The Plan will explain how the corresponding mitigation measures, designed to mitigate adverse environmental impacts associated with the course of action directed by the Record of Decision, will be planned and implemented.

Comment Code: Public Hearing Transcript 4-50

Location of EIS Revision(s): None required

Response: The commentor's request for a second Draft NTS EIS is noted. Please see response to Comment Code Public Hearing Transcript 4-44.

Comment Code: Public Hearing Transcript 4-51

Location of EIS Revision(s): None required

Response: The Final NTS EIS identifies Alternative 3 plus the public education activities of Alternative 4 as the DOE Preferred Alternative.

Comment Code: Public Hearing Transcript 4-52

Location of EIS Revision(s): None required

Response: The National Environmental Policy Act process allows for EISs that address classified proposals to be safeguarded and restricted from public dissemination. In order to make as much government information available to the public as possible, agencies are encouraged (in some cases mandated) to separate classified information from unclassified, and produce a classified appendix when necessary. The DOE accomplished this with the NTS EIS. "Restricted Data" is information concerning the design, manufacture, or utilization of atomic weapons; the production of Special Nuclear Material; or the use of Special Nuclear Material in the production of energy. The classified appendix has been withheld in its entirety under Exemption 3 of the Freedom of Information Act, using the Atomic Energy Act of 1954, as amended, as the statutory basis.

Comment Code: Public Hearing Transcript 4-53

Location of EIS Revision(s): None required

Response: The commentor is correct in stating that a nuclear rocket program has been studied. The Space Nuclear Thermal Propulsion Program was never implemented, thus there is no discussion about it in the NTS EIS.

Comment Code: Public Hearing Transcript 4-54

Location of EIS Revision(s): None required

Response: Because of the similarities between all the safety test areas (source of the soils plutonium contamination), information for all these sites, including the Area 13 site, is presented under NTS soils, Volume 1, Section 4.1.4.3 of the NTS EIS. The Environmental Restoration Program is the only DOE program which has activities scheduled for this area; therefore, it is the only area on the NAFR Complex covered in this EIS.

Comment Code: Public Hearing Transcript 4-55

Location of EIS Revision(s): None required

Response: It is clearly in DOE's interest to present relevant information in this EIS pertaining to current activities (such as Double Tracks) and future DOE efforts such as Area 13 on the Nellis Air Force Range Complex. In addition, as identified in the text of this EIS and in public hearings, the environmental impacts associated with the classified appendix, (Volume 1, Appendix J), have been included in the overall evaluation of impacts associated with DOE areas of interest.

Comment Code: Public Hearing Transcript 4-56

Location of EIS Revision(s): None required

Response: The support for solar energy research is noted. Under Alternatives 1, 3, and 4, the DOE would support a Solar Enterprise Zone concept. Under Alternatives 3 and 4, the DOE would construct and operate solar energy production facilities.

Comment Code: Public Hearing Transcript 4-57

Location of EIS Revision(s): None required

Response: The commentor's support for cleanup of the NTS, and continued employment for the workforce, is noted.

Comment Code: Public Hearing Transcript 4-58

Location of EIS Revision(s): None required

Response: Subcritical tests are intended to provide information that will help to maintain the reliability of the remaining nuclear stockpile and support treaty safeguards of the proposed Comprehensive Test Ban Treaty. The Secretary considers these tests part of the Science-based Stockpile Stewardship Program. The DOE does not believe that the tests jeopardize the treaty negotiations.

Comment Code: Public Hearing Transcript 4-59

Location of EIS Revision(s): None required

Response: Alternative 2 is defined as the discontinuation of the DOE/NV and interagency programs and operations at the NTS. The commentor's support for the discontinuation of operations (Alternative 2) at the NTS is noted.

Comment Code: Public Hearing Transcript 4-60

Location of EIS Revision(s): None required

Response: The support of solar energy research is noted. Under Alternatives 1, 3, and 4, the DOE would support the Solar Enterprise Zone concept. Under Alternatives 3 and 4, the DOE could construct and operate solar energy production facilities.

Comment Code: Public Hearing Transcript 4-61

Location of EIS Revision(s): None required

Response: Should it be determined that the NTS, or portions thereof are no longer required for the purpose for which it was reserved, the lands must be returned to the Department of the Interior. If the lands are accepted for return to the public domain, the U.S. Bureau of Land Management will determine the subsequent disposition of the lands. For additional information, please refer to Sections 1.3 and 1.8 of Volume 3.

Comment Code: Public Hearing Transcript 4-62

Location of EIS Revision(s): None required

Response: The comment regarding cleanup of the NTS is noted. Environmental restoration activities are ongoing and will continue under Alternatives 1, 3, and 4 and could be accelerated under Alternatives 3 and 4.

Comment Code: Public Hearing Transcript 4-63

Location of EIS Revision(s): None required

Response: Support for maintaining capabilities is noted. Among the major responsibilities of the DOE at the NTS is to maintain a nuclear testing capability. Under Alternatives 1 and 3, the DOE would maintain the readiness and capability to conduct nuclear tests within 2 to 3 years, if directed by the President of the United States. Tests would be performed in vertical drill holes at Yucca Flat and Pahute Mesa. Therefore, under Alternatives 1 and 3, Yucca Flat and Pahute Mesa would continue to be designated as nuclear test zones.

Comment Code: Public Hearing Transcript 4-64

Location of EIS Revision(s): None required

Response: Opposition to Alternative 3, Expanded Use, is noted.

Comment Code: Public Hearing Transcript 4-65

Location of EIS Revision(s): None required

Response: The DOE believes that the range of alternatives considered in this EIS bounds the alternative suggested. An entire spectrum of activities was evaluated, including the commentor's suggested activities. Volume 1, Section 3.2.4 provides more information on "Other Alternatives Within the Range of Alternatives Considered."

Comment Code: Public Hearing Transcripts 4-66

Location of EIS Revision(s): None required

Response: The DOE has not proposed the Expanded Use Alternative as a continued pursuit of the Cold War. Rather, it is proposed as an alternative that would make maximum use of a valued national resource, the NTS, while preserving the safeguards included in International Treaties related to arms reductions.

Comment Code: Public Hearing Transcripts 4-67

Location of EIS Revision(s): None required

Response: The DOE has noted that new nuclear weapons are not being designed. Tests are proposed to confirm the safety and adequacy of the existing nuclear stockpile. The risks of performing these tests are discussed in the NTS EIS.

Comment Code: Public Hearing Transcripts 4-68

Location of EIS Revision(s): None required

Response: The DOE has not proposed the Expanded Use Alternative as a continued pursuit of the Cold War and does not believe that the risk of nuclear war would be increased. Rather, it is proposed as an alternative that would make maximum use of a valued national resource, the NTS, while preserving the safeguards included in International Treaties related to arms reductions. In that way, the risk of nuclear war may in fact be reduced.

Comment Code: Public Hearing Transcript 4-69

Location of EIS Revision(s): Throughout text

Response: A consistency check of the document has been performed. In most instances, metric units are presented first, followed by the equivalent English units. However, some discussions, such as those involving noise, radiation, land, or weight, use only the system in common usage. The units are consistently presented in the Final NTS EIS.

Comment Code: Public Hearing Transcript 4-70

Location of EIS Revision(s): None required

Response: The DOE concurs with the commentor's expression of public involvement in the NTS EIS. Toward this goal, the public comment period was increased from the required 45 days to 90 days and numerous public hearings and public workshops were held to enable as many people as possible to comment on the NTS EIS. The Draft NTS EIS did not state a Preferred Alternative because the DOE did not have one at that time. The Preferred Alternative identified in the Final NTS EIS is Alternative 3 plus the public education activities of Alternative 4.

Comment Code: Public Hearing Transcript 4-71

Location of EIS Revision(s): None required

Response: Your concern for NTS workers is noted. The DOE has selected Alternative 3 plus the public education activities of Alternative 4 as the preferred alternative. Alternative 3 would result in the highest levels of employment at the NTS.

Comment Code: Public Hearing Transcript 4-72

Location of EIS Revision(s): None required

Response: Radioactive wastes which would be transported to the NTS as part of Alternative 1, 3 and 4 would not require the use of a cask. In the unlikely event of an accident with a release of material, the first responder would be the local fire, police, or emergency response personnel. The DOE provides first-responder emergency training to emergency personnel in all Nevada counties along potential routes. The DOE will also assist in responding to the emergency and in containment and clean-up activities upon request from the state authorities.

Comment Code: Public Hearing Transcript 4-73

Location of EIS Revision(s): None required

Response: It is true that clean-up budgets have been decreased in the last few years. Congress has directed that greater efficiencies be achieved while maintaining the high priorities on the restoration and cleanup

programs. The DOE has been focusing much effort on conducting cleanup in a more efficient and effective manner, resulting in cost savings while maintaining the schedules and high priorities on cleanup. The DOE continues to look for better and cheaper ways to accomplish important programs in these areas of interest.

Comment Code: Public Hearing Transcript 4-74

Location of EIS Revision(s): None required

Response: Clean-up levels across the DOE complex are being defined in terms of potential future land uses. These clean-up levels not only vary by site, but also by location within each site. At the NTS, past clean-up efforts have been accomplished to levels agreed upon by the DOE and state regulators. The DOE is currently committed to environmental restoration with the purpose of minimizing, managing, and cleaning up contamination at DOE sites; and ensuring that risks to human health and safety are eliminated or reduced to levels prescribed by federal and state regulations. Where regulations do not currently exist, final clean-up levels will be determined through the process established in the Federal Facility Agreement and Consent Order. That process includes a complex risk evaluation. The Federal Facility Agreement and Consent Order requires the development of a Corrective Action Decision Document which will provide the rationale for the selected clean-up levels based on investigation activities, costs, and risk to receptors based in conjunction with potential future land uses. Detailed information is being provided to the commentor regarding clean-up levels at NTS and other DOE sites.

Comment Code: Public Hearing Transcript 5-1

Location of EIS Revision(s): None required

Response: Disposal of waste in land disposal units is deemed the preferred option in the United States for most wastes that cannot be treated to remove the hazard. The preference for land disposal applies to low-level waste and has been chosen by the DOE as the option to be followed.

Comment Code: Public Hearing Transcript 5-2

Location of EIS Revision(s): None required

Response: Aboveground waste storage is a temporary solution and does not remove the potential for harm to humans from interaction with the waste. Waste disposal in landfill units is a more safe and secure method than aboveground storage. Waste that has been disposed of in landfills can also be monitored and retrieved if necessary. The elimination of waste radionuclides from the earth is either technologically not feasible or cost prohibitive.

Comment Code: Public Hearing Transcript 5-3

Location of EIS Revision(s): Section 1.4 of Volume 1

Response: The activities associated with the storage and disposition of weapons-usable fissile material and stockpile stewardship and management are defined to the extent necessary for a sitewide NTS EIS. Additional

information on these activities is provided in other DOE programmatic EISs, particularly the Draft Programmatic EIS for Stockpile Stewardship and Management, and the Storage and Disposition of Weapons-Usable Fissile Materials Draft Programmatic EIS. The relationship of the NTS EIS with these and other statements is explained in Section 1.4 of the NTS EIS. A sentence has been added to the section to further clarify this subject.

Comment Code: Public Hearing Transcript 5-4

Location of EIS Revision(s): None required

Response: All involved parties, including Congressional representatives, have access to information presented in this and other related DOE National Environmental Policy Act reviews. The DOE disagrees with the inference that the transportation of up to one million cubic meters of low-level waste will "destroy our quality of life."

The DOE has been transporting radioactive material and waste around the country by truck and rail for over 40 years with an excellent safety record. Although the logistics of moving such a large amount of material may seem daunting, the transportation will occur over 10 years, not all at once, and the technology is very well known and reliable. Incident-free transportation of low-level waste is not expected to lower the quality of life or affect the environment along the routes. The radiological risks associated with accidental releases are estimated to be much less than one for latent cancer fatalities (0.00041 in 10 years) and even less than that for radiation-induced detriment, as compared to the average annual number of cancer deaths from all causes in Nevada of around 2,500.

Comment Code: Public Hearing Transcript 5-5

Location of EIS Revision(s): None required

Response: The DOE and its national laboratories are exploring transmutation technologies. These programs are scientific endeavors in their early stages of exploration. Components of the research and development effort of the technologies will be to assess feasibility, implementation, sitings, and cost effectiveness.

Comment Code: Public Hearing Transcript 5-6

Location of EIS Revision(s): Appropriate maps have been modified to include State Route 160 and Pahrump.

Response: Three of the in-state routes evaluated for the transportation risk study do use State Route 160 through Pahrump, and the road and the city are shown on the maps for those routes. The other figures in the NTS EIS have been modified to show Pahrump where appropriate.

Comment Code: Public Hearing Transcript 5-7

Location of EIS Revision(s): None required

Response: Pahrump, as the commentor suggests, is the largest and most rapidly growing community in Nye County. The DOE disagrees that the federal government is totally unaware of the demographics of Pahrump. Demographics are discussed in Volume 1, Chapter 4, Section 4.1.3 with respect to population, housing stock, housing demand, vacancy rate, public finance, and public services.

Pahrump has a town board form of government. The unincorporated town mechanism allows the Board of County Commissioners or the residents of an area to define their geographic area; the DOE would not be responsible for a survey of a town.

Comment Code: Public Hearing Transcript 5-8

Location of EIS Revision(s): None required

Response: The commentor is correct in noting that the Pahrump Valley has a good aquifer. The Pahrump Valley is not hydraulically linked to the basins that encompass the NTS. Thus, the definition of the baseline hydrologic conditions in that valley is not required for the analyses presented in the NTS EIS.

Comment Code: Public Hearing Transcript 5-9

Location of EIS Revision(s): Volume 1, Sections 4.1.13 and 5.1.1.3

Response: The comment continues in this paragraph to discuss the dearth of hazardous materials training for volunteer firefighters and sheriffs in Pahrump. Text has been added to clarify the hazardous material training that the DOE provides. Trained firefighters could access accidents on U.S. Highway 95 from Las Vegas. There would be no need to drive through Pahrump.

Comment Code: Public Hearing Transcript 5-10

Location of EIS Revision(s): None required

Response: Refer to Section 1.9 of Volume 3.

Comment Code: Public Hearing Transcript 5-11

Location of EIS Revision(s): Waste volumes and truck trip estimates have been revised. These are summarized in Appendix A and Appendix I.

Response: Under Alternative 3 in the NTS EIS, approximately 1.0×10^6 cubic meters (m^3) (1.3×10^6 cubic yards [yd^3]) of low-level waste would be disposed of at the NTS. This value is consistently used throughout the NTS EIS and its Appendices. The $1.8 \times 10^7 m^3$ ($2.4 \times 10^7 yd^3$) (actually $18,560.937 m^3$ [$24,246,796 yd^3$]) in Appendix D) over the next 75 years is an estimate of the amount of environmental restoration waste that

could be generated throughout the entire United States. This estimate was extracted from the DOE 1995 *Baseline Environmental Management Report* (DOE, 1995d). The 75-year timeframe of the 1995 *Baseline Environmental Management Report* is outside the timeframe considered in the NTS EIS. These estimates have been revised in the Final NTS EIS due to consistency checks between Appendix A (Description of Projects and Activities) and Appendix I (Transportation Study).

Comment Code: Public Hearing Transcript 5-12

Location of EIS Revision(s): None required

Response: This information is not relevant to the NTS EIS. However, based on recent reports, it has been concluded that the plutonium and uranium in the tank waste at Hanford could not go critical. The tanks and the waste at Hanford remain one of DOE's high priorities for remediation and cleanup, however.

Comment Code: Public Hearing Transcript 5-13

Location of EIS Revision(s): None required

Response: The NTS currently has a transuranic waste storage pad with over 1500, 55-gallon drums of mixed transuranic waste. Under Alternative 3, the NTS could receive transuranic waste for the purpose of certifying it prior to shipment to an off-site disposal location. The NTS will not store transuranic waste beyond the capacity of the Transuranic Waste Storage Pad.

Comment Code: Public Hearing Transcript 5-14

Location of EIS Revision(s): None required

Response: There are no projects or activities concerning the storage of high-level nuclear waste on the NTS under any of the alternatives discussed in the NTS EIS. If a decision were made to pursue this activity, a separate environmental assessment would have to be done prior to conducting the activity. The topic of high-level waste and the potential Yucca Mountain Project are discussed in Section 1.1 of Volume 3.

Comment Code: Public Hearing Transcript 5-15

Location of EIS Revision(s): None required

Response: The impacts of proposed waste shipments to the NTS are discussed in the Transportation sections of Volume 1, Chapter 5 and Volume 1, Appendix I. The NTS EIS shows that potential impacts from waste shipments would be small under any of the alternatives evaluated. The DOE interprets the commentor's reference to "the pristine Pahrump Valley and Nye County" to mean an area generally free of environmental contaminants, such as man-made radioactive and hazardous materials. In the entire history of radioactive material transportation, there have been very few accidents that resulted in any release of radioactivity from the shipping container. In the few instances where a release from packaging has occurred, the release was localized and resulted in no long-term environmental impacts.

Comment Code: Public Hearing Transcript 5-16

Location of EIS Revision(s): None required

Response: Nevada does generate radioactive waste. Radioactive waste is generated at most major medical facilities in the country, including those in the state of Nevada. Approximately half of the total amount of radioactive waste disposed of at the NTS originated from the NTS. Most of this debris came from the cleanup of atmospheric test locations. There will also be large quantities of radioactive waste generated during the cleanup of environmental restoration sites that are not only on the NTS but within the state as well.

The NTS does generate a significant quantity of hazardous waste. Almost all of the NTS hazardous waste is sent to treatment and disposal facilities out of the state of Nevada.

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Workshop Notes

Comment Code: Workshop Notes 1-1

Location of EIS Revision(s): None required

Response: The DOE does understand the stakeholder's concerns about the issues associated with transportation of hazardous materials and waste. Each recommendation from the Protocol Working Group was identified as a comment and the appropriate response was prepared by the DOE. Chapter 7, "Mitigation Measures," presents the mitigation measures related to transportation. The mitigation measures that are accepted by the DOE will be identified in the Mitigation Action Plan. Refer to the discussion in Section 1.6 of Volume 3.

Comment Code: Workshop Notes 1-2

Location of EIS Revision(s): None required

Response: Refer to the response in Comment Code Workshop Notes 1-1 for more details of the mitigations measures that may be implemented by the DOE and to Section 1.6 of Volume 3.

Comment Code: Workshop Notes 1-3

Location of EIS Revision(s): None required

Response: The DOE is not required to provide notification for low-level waste shipment activities. However, the state of Nevada, Clark County, the city of Las Vegas, and the city of North Las Vegas require carriers hauling hazardous materials (including radioactive materials) to notify them when entering their jurisdictions. It is DOE policy to require carriers to comply with all state and local regulatory requirements. For additional information on transportation, refer to Chapter 1, Section 1.6 of Volume 3.

Comment Code: Workshop Notes 1-4

Location of EIS Revision(s): None required

Response: Refer to Section 1.6 of Volume 3.

Comment Code: Workshop Notes 1-5

Location of EIS Revision(s): None required

Response: Mechanisms for providing this information are being addressed. Refer to Section 1.6 of Volume 3.

Comment Code: Workshop Notes 1-6

Location of EIS Revision(s): None required

Response: Refer to Section 1.6 of Volume 3 for more information on transportation.

Comment Code: Workshop Notes 1-7

Location of EIS Revision(s): Volume 1, Sections 4.1.3 and 5.1.1.3

Response: Text has been added to clarify the training that the DOE provides and the responsibilities that the DOE has. For additional information concerning transportation, refer to Section 1.6 of Volume 3.

Comment Code: Workshop Notes 1-8

Location of EIS Revision(s): None required

Response: Communication systems and optical devices are standard items for routine responders to incidents involving hazardous materials including radioactive materials, explosives, poisons, flammable materials, etc. It is not DOE's policy to provide such items.

Comment Code: Workshop Notes 1-9

Location of EIS Revision(s): None required

Response: Local public safety and emergency response agencies are candidates for the distribution of DOE surplus equipment. The DOE/NV presently is reviewing inventories of surplus radiation detection equipment for possible distribution to local communities.

Comment Code: Workshop Notes 1-10

Location of EIS Revision(s): None required

Response: Refer to Comment Code Workshop Notes 1-7.

Comment Code: Workshop Notes 1-11

Location of EIS Revision(s): None required

Response: Refer to Comment Code Workshop Notes 1-7.

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Comment Code: Workshop Notes 1-12

Location of EIS Revision(s): None required

Response: Refer to Comment Code Workshop Notes 1-7.

Comment Code: Workshop Notes 1-13

Location of EIS Revision(s): None required

Response: It is DOE policy to comply with state and local transportation regulations. All Class 7 materials are shipped at a minimum, in strong, tight containers that preclude aerosol disbursement in compliance with applicable regulations.

Comment Code: Workshop Notes 1-14

Location of EIS Revision(s): None required

Response: The DOE understands the stakeholders' concerns and will make parking space available within the secured area of the NTS.

Comment Code: Workshop Notes 1-15

Location of EIS Revision(s): None required

Response: There is no regulatory requirement to have two drivers present at all times during the transportation of Class 7 waste. If the U.S. Department of Transportation or the Nuclear Regulatory Commission makes this mandatory in the future, the DOE will comply.

Comment Code: Workshop Notes 1-16

Location of EIS Revision(s): None required

Response: Carriers respond to driver advisories and notifications of delays and adjust their route plans accordingly. Refer to Section 1.6 of Volume 3 for additional information.

Comment Code: Workshop Notes 1-17

Location of EIS Revision(s): None required

Response: Commercial Vehicle Safety Alliance inspections are not required for low-level waste shipments; it is DOE's policy to use the Motor Carrier Evaluation Program to ascertain carrier worthiness. The U.S. Department of Transportation and local law enforcement agencies already have enforcement authority; law

enforcement can pull over and inspect any vehicle. Vehicles are inspected prior to shipment as well as through the evaluation program (mentioned above), which uses the Commercial Vehicle Safety Alliance standards. No additional inspection is necessary.

Comment Code: Workshop Notes 1-18

Location of EIS Revision(s): None required

Response: Refer to Section 1.6 of Volume 3.

Comment Code: Workshop Notes 1-19

Location of EIS Revision(s): None required

Response: Refer to Section 1.6 of Volume 3.

Comment Code: Workshop Notes 1-20

Location of EIS Revision(s): None required

Response: The commentor's concern is noted. The U.S. Department of Transportation provides the authority for safe haven identification, time of day, holiday, and peak traffic period limitations to individual states. The Nevada Department of Transportation has not initiated any of these restrictions; if they did adopt these programs, the DOE would comply.

Comment Code: Workshop Notes 1-21

Location of EIS Revision(s): None required

Response: Any methodology used for selecting routes that complies with the U.S. Department of Transportation regulations [49 CFR 397.101(a)] is acceptable. Under these regulations, carriers are required to select their routes based on the route selection criteria. The primary criteria of route selection is to minimize radiological risk to the public. See Section 1.6 of Volume 3 for more information.

Comment Code: Workshop Notes 1-22

Location of EIS Revision(s): None required

Response: Refer to Section 1.6 of Volume 3. Any process or methodology for selecting routes that complies with the U.S. Department of Transportation regulations is acceptable.

414

Comment Code: Workshop Notes 1-23

Location of EIS Revision(s): None required

Response: Each carrier or route does not have an individual risk analysis. The transportation risk analysis documented in the Transportation Study for the NTS EIS serves as a tool for evaluation of potential risks of representative routes. The U.S. Department of Transportation regulations require that the driver have the route plan in his or her immediate possession.

Comment Code: Workshop Notes 1-24

Location of EIS Revision(s): None required

Response: Refer to Comment Code Workshop Notes 1-20.

Comment Code: Workshop Notes 1-25

Location of EIS Revision(s): None required

Response: Refer to Comment Code Workshop Notes 1-14.

Comment Code: Workshop Notes 2-1

Location of EIS Revision(s): None required

Response: The development of this EIS has been in progress for more than a year. The budget for last year was approximately \$5 million. This year's budget has not been completed, but the target is about the same level of funding. The total budget is not expected to exceed \$10 million.

Comment Code: Workshop Notes 2-2

Location of EIS Revision(s): None required

Response: The DOE Waste Management Programmatic EIS will provide a complex-wide evaluation of management alternatives for treating, storing, and disposing of radioactive and hazardous waste. Decisions on the management, transport, and disposal of DOE-generated wastes will be based upon the evaluation of impacts of on-site and off-site disposal operations. The Final NTS EIS and the Programmatic EIS will both include the impact evaluations.

Comment Code: Workshop Notes 2-3

Location of EIS Revision(s): None required

Response: The DOE/NV has written to ask the Bureau of Reclamation if they can stop hazardous truck traffic across Hoover Dam.

Comment Code: Workshop Notes 2-4

Location of EIS Revision(s): None required

Response: Refer to Section 1.6 of this Volume. Routes would be selected by the carrier in accordance with the U.S. Department of Transportation regulations [49 CFR 397.101 (a)]. Under these regulations, carriers are required to select their routes based on the route selection criteria. The primary criterion of route selection is to minimize radiological risk to the public. The DOE understands the local concern regarding specific routes.

Comment Code: Workshop Notes 3-1

Location of EIS Revision(s): None required

Response: The scope of the NTS EIS includes only those sites inside the state of Nevada where the DOE is considering programmatic changes. This includes the NTS, the Tonopah Test Range, portions of the Nellis Air Force Range Complex, and the proposed Solar Enterprise Zone facility sites at the NTS, Dry Lake Valley, Eldorado Valley, and Coyote Spring Valley. The facilities located in Las Vegas and at Nellis Air Force Base are included in the NTS EIS as part of the programs they support. Many of the site support activities are discussed in Volume 1, Appendix A, Section A.6. Transportation alternatives focus mainly on risks associated with waste transport. The routes evaluated in the NTS EIS transportation risk analysis are not proposed routes. These routes were chosen as representative routes for evaluation.

Comment Code: Workshop Notes 3-2

Location of EIS Revision(s): None required

Response: The DOE/NV and Yucca Mountain Site Characterization Office will continue to work together and coordinate the key issues with respect to their respective EISs. The DOE will evaluate the possible environmental impacts from the construction, operation, and eventual closure of a potential repository for spent nuclear fuel and high-level radioactive waste at Yucca Mountain; including transportation and discussion of potential routing for these waste shipments, in a separate, ongoing EIS. The Yucca Mountain Repository EIS is not within the scope of the NTS EIS. See Section 3.2.6.1 and Section 1.1 of this Volume for further explanation on why the Yucca Mountain Repository EIS is outside the scope of this EIS.

It is not necessarily true that the routes deemed appropriate and designated under the U.S. Department of Transportation regulations for low-level waste shipments are the same routes that will be deemed appropriate for future high-level radioactive waste shipments, when they occur. Even if a repository is eventually developed at Yucca Mountain (and, as discussed in the response to State Government comment 2-30, there

are several preconditions that must be fulfilled before a repository can be developed), the earliest that shipments of high-level radioactive waste are anticipated is the year 2010. This is beyond the timeframe of actions addressed by this EIS. The DOE will follow the Department of Transportation's routing regulations that are in effect at that time to cover shipments of spent nuclear fuel and high-level radioactive waste.

Comment Code: Workshop Notes 3-3

Location of EIS Revision(s): None required

Response: The DOE understands the local concern regarding Craig Road. Refer to Section 1.6 of Volume 3 for additional information.

Comment Code: Workshop Notes 3-4

Location of EIS Revision(s): None required

Response: Refer to Comment Code Workshop Notes 3-3.

Comment Code: Workshop Notes 3-5

Location of EIS Revision(s): None required

Response: Refer to Comment Code Workshop Notes 2-4.

Comment Code: Workshop Notes 3-6

Location of EIS Revision(s): None required

Response: Any methodology that meets the requirements of the U.S. Department of Transportation regulations is acceptable. The primary criterion for selecting routes is to minimize radiological risk and any risk analysis for route selection would have to take local conditions into account. Refer to Section 1.6 of Volume 3 for additional information.

Comment Code: Workshop Notes 3-7

Location of EIS Revision(s): None required

Response: The transportation model HIGHWAY was one of many models used for transportation impact analysis. Local constraints, such as avoiding certain route segments, were used as input to the software code HIGHWAY to account for local conditions. Other appropriate models were used for more detailed planning.

Comment Code: Workshop Notes 3-8

Location of EIS Revision(s): None required

Response: The routing regulations for hazardous radioactive materials and waste are issued by the U.S. Department of Transportation, not the DOE. Regulations pertaining to the transportation of radioactive high level waste are found in 49 CFR, Part 397, Subpart D, "*Routing of Class 7 (Radioactive) Materials.*" The regulations pertaining to the transportation of hazardous, low-level radioactive materials and waste are found in 49 CFR Part 107 "*Hazardous Material Program Procedures.*" It is the DOE's policy to comply with all applicable regulations.

It is not necessarily true that the routes deemed appropriate and designated (under the U.S. Department of Transportation regulations) for low-level waste shipments are the same routes that will be deemed appropriate for future high-level radioactive waste shipments, when they occur. Even if a repository is eventually developed at Yucca Mountain the earliest that shipments of high-level radioactive waste are anticipated to begin is the year 2010 which is beyond the timeframe of actions addressed by this EIS. The DOE will follow the U.S. Department of Transportation's routing regulations that are in effect at the time to cover shipments of spent fuel and high-level radioactive waste. For additional information on why Yucca Mountain is outside the scope of the NTS EIS, refer to Volume 1, Section 3.2.6.1, and Volume 3, Sections 1.1 and 1.6.

Comment Code: Workshop Notes 3-9

Location of EIS Revision(s): None required

Response: Refer to Section 1.9 of Volume 3.

Comment Code: Workshop Notes 3-10

Location of EIS Revision(s): None required

Response: Refer to Comment Code Workshop Notes 2-4.

Comment Code: Workshop Notes 3-11

Location of EIS Revision(s): None required

Response: The DOE maintains an emergency response capability that is prepared to assist in any event involving radioactive materials. This capability exists to support its own operations as well as to assist local and state governments should that assistance be needed. As long as operations continue at the NTS, the emergency response capability will be maintained.

Comment Code: Workshop Notes 3-12

Location of EIS Revision(s): None required

Response: The Transportation Protocol Working Group was established to facilitate discussion of transportation issues relating to the NTS. This organization will continue to meet several times a year.

Comment Code: Workshop Notes 3-13

Location of EIS Revision(s): None required

Response: Refer to Comment Code Workshop Notes 1-3.

Comment Code: Workshop Notes 3-14

Location of EIS Revision(s): None required

Response: Refer to response in Section 1.6 of Volume 3.

Comment Code: Workshop Notes 3-15

Location of EIS Revision(s): None required

Response: The primary criterion for route selection under the U.S. Department of Transportation regulations for route selection [49 CFR 397.101(a)] is to minimize the total radiological risk. Carriers are aware of this and must meet that criterion when selecting routes. For more information see Section 1.6 of Volume 3.

Comment Code: Workshop Notes 3-16

Location of EIS Revision(s): None required

Response: Nevada-specific accident rate data were used for the in-state risk calculations. Site-specific accident rate data were not available to the analyst at the time the analysis was performed. The extremely low results obtained by using state-specific data indicate that the effort to collect and use site-specific data is not necessary. The U.S. Department of Transportation regulations [49 CFR 397.101(a)] already require carriers to consider population density and accident rates when selecting routes. These are all factors that would affect the total risk of the transport, which, by regulation, must be minimized when selecting routes. For more information see Section 1.6 of Volume 3.

Comment Code: Workshop Notes 3-17

Location of EIS Revision(s): None required

Response: It is important to understand that the routes evaluated in the transportation risk analysis are not proposed routes, but were chosen as representative routes for evaluation only. The carrier will choose the route prior to shipment. Routes will be selected in accordance with the U.S. Department of Transportation [49 CFR 397.101(a)]. Refer to Section 1.6 of Volume 3 for additional information.

Comment Code: Workshop Notes 3-18

Location of EIS Revision(s): None required

Response: Refer to Comment Code Workshop Notes 3-17.

Comment Code: Workshop Notes 3-19

Location of EIS Revision(s): None required

Response: Conditions such as highway construction are factors that a carrier would have to take into consideration in order to select a route that would minimize radiological risk. Refer to Section 1.6 of Volume 3.

Comment Code: Workshop Notes 3-20

Location of EIS Revision(s): None required

Response: Refer to the discussion in Section 1.9 of Volume 3.

Comment Code: Workshop Notes 3-21

Location of EIS Revision(s): None required

Response: The U.S. Department of Transportation regulations [49 CFR 397.101(a)] require that route selection take into account factors such as population density. For more information see Section 1.6 of Volume 3.

Comment Code: Workshop Notes 3-22

Location of EIS Revision(s): None required

Response: The DOE would be governed by the same regulations that the carriers are: The U.S. Department of Transportation regulations [49 CFR 397.101(a)]. The comment assumes contract vs. common carrier

permits route selection on DOE's part. This is not true—see Section B.1.2 of the Transportation Study (Appendix I). Refer also to Section 1.6 of Volume 3.

Comment Code: Workshop Notes 3-23

Location of EIS Revision(s): None required

Response: Refer to Comment Code Workshop Notes 3-13 and Section 1.6 of Volume 3 for additional information.

Comment Code: Workshop Notes 3-24

Location of EIS Revision(s): None required

Response: Section 1.6 of Volume 3 provides additional information on this subject. Notification and planning requirements for shipments of low-level, mixed, and hazardous wastes are under the control of the U.S. Department of Transportation. The DOE will continue to fully comply with these regulations. The driver of each vehicle is required to have a route plan in his immediate possession. This route plan also contains contingency plans for deviations from the planned route.

Comment Code: Workshop Notes 3-25

Location of EIS Revision(s): Chapter 4, Sections 4.1.3. and 5.1.1.3

Response: Text has been added to clarify the training that the DOE provides and the responsibilities that the DOE has. For additional information on transportation, refer to Section 1.6 of Volume 3.

Comment Code: Workshop Notes 4-1

Location of EIS Revision(s): None required

Response: Information concerning significant faults is summarized in Chapter 4, Section 4.1.1, Geology and Soils. A detailed discussion of regional seismic activity is characterized in Vortman (1991). Other recent studies are available from the U.S. Geological Survey.

Comment Code: Workshop Notes 4-2

Location of EIS Revision(s): None required

Response: The sequences that are part of the regional carbonate aquifer are shown in Volume 1, Figure 4-21. On this figure, the hydrogeologic units are listed in the second column while the corresponding geologic formations are shown under the heading "Geologic Formations."

Comment Code: Workshop Notes 4-3

Location of EIS Revision(s): None required

Response: The aquifers and aquitards that comprise the regional carbonate aquifer system are discussed in the section titled "Hydrogeologic Units" in Volume 1, Section 4.1.5.

Comment Code: Workshop Notes 4-4

Location of EIS Revision(s): None required

Response: A detailed discussion of the entire geologic history of the NTS is not required for the purposes of the NTS EIS. Additional detail is available in the references noted and in the DOE Technical Library.

Comment Code: Workshop Notes 4-5

Location of EIS Revision(s): None required

Response: A detailed discussion of the entire geologic history of the NTS with respect to mineralization is not required for the purposes of the NTS EIS since it is unlikely that this resource would be affected by proposed NTS activities.

Comment Code: Workshop Notes 4-6

Location of EIS Revision(s): None required

Response: A detailed discussion of the entire geologic history of the NTS with respect to present-day aquifers is not required for the purposes of the NTS EIS. The regional aquifer is described in Volume 1, Section 4.1.5.

Comment Code: Workshop Notes 4-7

Location of EIS Revision(s): None required

Response: The map presented in Volume 1, Figure 4-24 is a generalized map that was included to support the discussion on recent seismicity. Many other mapped faults exist on the NTS which are either inappropriate to display at the scale shown or are no longer active.

Comment Code: Workshop Notes 4-8

Location of EIS Revision(s): None required

Response: A discussion of the particular structural plates involved in nuclear testing is not generally required for the analysis of environmental impacts evaluated in the NTS EIS. Site-specific criteria such as the specific

structural plate in which a test was conducted are being considered in DOE's environmental restoration investigations at underground testing areas.

Comment Code: Workshop Notes 4-9

Location of EIS Revision(s): None required

Response: Test wells on the NTS were not drilled for the purposes of petroleum exploration, but most were logged by contract geophysical logging firms active in the petroleum industry. The qualifications of the individuals performing the environmental analysis are listed in Chapter 9 of the NTS EIS.

Comment Code: Workshop Notes 4-10

Location of EIS Revision(s): None required

Response: The findings concerning hydrocarbon resources are based upon the cited references and include the definition of hydrocarbon resource potential by the Nevada Bureau of Mines and Geology.

Comment Code: Workshop Notes 4-11

Location of EIS Revision(s): None required

Response: Test wells on the NTS were not drilled for the purposes of petroleum exploration, and were not required to be overseen by petroleum geologists.

Comment Code: Workshop Notes 4-12

Location of EIS Revision(s): Chapter 4, Section 4.1.5.2

Response: The relationship between the stratigraphic units present at the NTS and the groundwater aquifers is discussed in the section titled "Hydrogeologic Units," summarized in Volume 1, Table 4-24, and presented graphically on Figure 4-21. A reference to Table 4-24 has been added to the NTS EIS discussion.

Comment Code: Workshop Notes 5-1

Location of EIS Revision(s): None required

Response: The NTS Development Corporation has been tasked with bringing new business to the NTS and Tonopah Test Range. This corporation includes representation by Nye County. In addition, the Bechtel Nevada Business Development Office has also been tasked with bringing in new work.

Comment Code: Workshop Notes 5-2

Location of EIS Revision(s): None required

Response: The region of influence for the socioeconomics discussion in the NTS EIS is discussed in Section 4.1.3. The region of influence is defined as the area in which the principal direct and secondary socioeconomic effects are likely to occur, and are expected to be of the most consequence to local jurisdictions. Most employees of the DOE, contractor personnel, and supporting government agencies live in Clark County (90 percent) or Nye County (7 percent). The remaining 3 percent live in other areas including Lincoln and Esmeralda counties. It was assumed that this past trend would continue based on past and predicted settlement patterns, and that the majority of socioeconomic impacts would occur to jurisdictions in the counties analyzed.

Comment Code: Workshop Notes 5-3

Location of EIS Revision(s): None required

Response: The DOE included the four federal agencies and Nye County as cooperating agencies during the early stages of the development of this EIS in accordance with the Council on Environmental Quality regulations for implementing the National Environmental Policy Act (Title 40 CFR Parts 1500.5 and 1500.6). These agencies were included because of their jurisdiction and specific expertise with regard to environmental issues which are discussed in the NTS EIS. The DOE sought their cooperation to identify potential impacts to lands owned, administered, or managed by these agencies as a result of implementing the proposed alternatives. The DOE did not want the alternatives evaluated in the NTS EIS to be in conflict with the programs and policies of these agencies.

Although the DOE did not request other federal, state, or local agencies to be cooperating agencies, the DOE did contact numerous agencies during the preparation of this EIS and sent copies of the Draft NTS EIS to local governments throughout Nevada, including Esmeralda County, for their review and comment; not just Clark, Lincoln, and Nye counties. The input provided by these agencies during scoping, and in comments on the Draft NTS EIS has been a very valuable component in the overall process. The DOE is committed to working with local governments in Nevada in implementing the Preferred Alternative, and will continue to seek their input regarding issues related to the NTS.

The DOE has not excluded Esmeralda County from activities involving the NTS. The DOE mailing lists for the NTS include several Esmeralda County agencies and officials, including the County Commission, County Clerk, and School Superintendent. The mailing lists also include the public libraries in Goldfield and Dyer. The DOE also has published public notices regarding NTS activities in the *Tonopah Times*. In March 1995, the DOE held a meeting on transportation issues in Goldfield, which was attended by several Esmeralda County officials; and a scoping meeting for the NTS EIS was held in nearby Tonopah in September 1994.

Comment Code: Workshop Notes 5-4

Location of EIS Revision(s): None required

Response: The commentor is correct when stating that both low-income populations and minority populations are considered when evaluating environmental justice concerns. The NTS EIS identifies census blocks in

Clark County (Volume 1, Figure 4-49) and Nye County (Volume 1, Figure 4-50) that have a large percentage of low-income residents and minority populations compared to other census blocks in Clark and Nye counties.

Comment Code: Workshop Notes 5-5

Location of EIS Revision(s): None required

Response: The NTS EIS does consider environmental justice effects on low-income populations. The NTS EIS identifies census blocks in Clark County (Figure 4-49) and Nye County (Figure 4-50) that have a large percentage of low-income residents compared to other census blocks in Clark and Nye counties.

Comment Code: Workshop Notes 5-6

Location of EIS Revision(s): None required

Response: Refer to Comment Code Workshop Notes 5-4.

Comment Code: Workshop Notes 5-7

Location of EIS Revision(s): None required

Response: The NTS EIS is one of a series of "tiered" documents, as defined by the National Environmental Policy Act. The NTS EIS is more specific than DOE's Programmatic EIS documents, which discuss nationwide programs and their effects, and is less specific than environmental documentation that would occur for a specific project. The tiering process is meant to avoid a duplication of effort and paperwork. Therefore, if a new project were proposed in the future, the NTS EIS would be incorporated by reference, and only the analysis specific to the project would be performed. The DOE is required under the Endangered Species Act to ensure that activities do not affect endangered, threatened, or candidate species. Development or construction is possible if appropriate mitigation measures are practiced, as approved by the U.S. Fish and Wildlife Service.

Comment Code: Workshop Notes 6-1

Location of EIS Revision(s): None required

Response: Alternative 3, the Expanded Use Alternative, would provide the greatest employment opportunity.

Comment Code: Workshop Notes 6-2

Location of EIS Revision(s): None required

Response: The definition of low-level waste is provided in Volume 1, Section 2.4:

Low-Level Waste—Radioactive waste not classified as high-level waste, transuranic waste, or spent nuclear fuel, or the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content. Test specimens of fissionable material irradiated for research and development only, and not for the production of power or plutonium, may be classified as low-level waste, provided the concentration of transuranic elements is less than 100 nCi per gram.

Comment Code: Workshop Notes 6-3

Location of EIS Revision(s): None required

Response: Refer to Section 1.6 of Volume 3.

Comment Code: Workshop Notes 6-4

Location of EIS Revision(s): None required

Response: The immediate response would be by local emergency response personnel. If they felt DOE's presence was required, a competent state authority can request the DOE to assist with the emergency response and they are responsible for any clean-up. Radiological Assistance Teams are available within each DOE region.

Comment Code: Workshop Notes 6-5

Location of EIS Revision(s): None required

Response: The DOE has an excellent transportation safety record. The DOE has been transporting radioactive material across the United States for over 40 years with no serious accidents.

Comment Code: Workshop Notes 6-6

Location of EIS Revision(s): None required

Response: It is the DOE's policy to afford, to the maximum extent possible, the opportunity to all interested parties to participate in the competition process for new contracts and business solicitations. Interested parties can list their name on a bidders' list by contacting the DOE Contract Management Division at (702) 295-3206 or by contacting the Small Business Specialist at (702) 295-1506.

CHAPTER 4 REFERENCES

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